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ABSTRACT

Papers on cataloging, classification, and coding systems which were presented at the 1982 International Federation of Library Associations (IFLA) conference include: (1) "Numbering and Coding Systems for Bibliographic Control in Use in North America" by Lois Mai Chan (United States); (2) "A Project Undertaken by the Library of Universite Laval to Adapt the 'Library of Congress Subject Headings' into the French Language" by Michel Fournier (Canada); (3) "The Arabic Dewey Decimal Classification" by Mohammed M. Aman (United States) and brief related presentations; (4) "A 'Network' of Subject Headings: The 'Repertoire de l'Universite Laval' Adapted by the Bibliotheque Nationale--Paris" by Suzanne Jouguelet (France); (5) "The International Standard Serial Number (ISSN)" by M. Rosenbaum (France); (6) "Use of Flow Charting and Other Graphic Methods in the Analysis of Cataloguing Operations" by Ann H. Schabas (Canada); (7) "Project: List of Subject Headings for Libraries (LEMB): Problems of Translation and Adaptation" by Bertha Nelly Cardona De Gil (Colombia); (8) "FID (International Federation of Documentation) and UDC (Universal Decimal Classification): General Background and New Developments" by M. Laursen Vig (Denmark); and (9) "International Standard Book Numbers (ISBN): Their Development and Potential in Bibliographic Systems" by K. W. Neubauer (Federal Republic of Germany). (ESR)

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INTERNATIONAL FEDERATION OF LIBRARY ASSOCIATIONS

Cataloguing and Classification Section

Bibliographic Control Division

Papers

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IFLA GENERAL CONFERENCE, MONTREAL 1982

Division: Bibliographic Control

Section : CATALOGUING

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Numbering and Coding Systems for Bibliographic Control in Use in North America

by

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IR0570188

Meeting 138 SI

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NUMBERING AND CODING SYSTEMS FOR BIBLIOGRAPHIC CONTROL IN USE IN NORTH AMERICA

Lois Mai Chan

Abstract

Types of numbering and coding systems for bibliographic control in use in North America are reviewed. These include numbers or codes assigned to publications and those assigned to bibliographic records in bibliographies, catalogs, and databases. Three of these systems--CODEN, STRN (Standard Technical Report Number), and LC (Library of Congress) Card Number--are discussed as examples of coding or numbering periodicals, technical reports, and books.

(To be presented in English)

Introduction

My assigned topic is a brief review of numbering and coding systems for publications, other than ISBN and ISSN, that are in use in North America. From the nature of the main program, I inferred that the classification systems were excluded.

As one ventures into this area, one soon discovers that there may be more numbering systems used in connection with bibliographic control than most people would care to learn. Many publishers and producers of bibliographic or information media use in-house numbering systems for stock or inventory control. Almost all machine-readable databases have their own accession numbering systems. This paper will focus on those systems that have wider application than in-house use by a particular publisher or producer, or use within a particular database. Emphasis will be placed on standardized or widely used systems.

The first part of this paper will include a brief discussion of two types of numbering systems: those assigned to bibliographic items and those assigned to bibliographic records. In the second part of the paper, three systems as examples of numbering or coding periodicals, technical reports, and books will be discussed. In passing, I might mention that in my research on this topic, I was not able to identify any standardized numbering systems for nonprint media.

Types of Numbering Systems

1. Numbers assigned to bibliographic items or publications:

These numbering systems are similar to ISBN or ISSN in that they are assigned to individual publications and normally carried on the bibliographic items. While ISBN and ISSN are the most prevailing systems of this type, other numbering systems are also used in Canadian and U.S. publications, particularly in special types of publications. For example, Canadian government publications

are assigned unique catalog numbers which appear on the items as well as in the quarterly catalogue, Government of Canada Publications. In publications issued by the U.S. Government Printing Office, a stock number is assigned and printed on the title page. For technical reports or publications, other systems of numbering are also used. These include patent numbers, contract/grant numbers, project numbers, and task numbers assigned to research projects. Publications resulting from such projects normally carry these numbers for identification.

Two numbering systems of this type warrant particular attention. The CODEN is a system used for numbering periodicals and certain types of nonserial publications. In publications identified by this system, the CODEN often appear side by side with the ISSNs. The Standard Technical Report Number (STRN) is a system developed by the American National Standards Institute (ANSI) for the purpose of numbering technical reports. Both CODEN and STRN will be discussed in detail later.

2. Numbers assigned to bibliographic records:

The numbers that have been assigned to bibliographic items discussed above are generally displayed in bibliographic records for these items included in catalogs, bibliographies and machine-readable databases. In bibliographic control, this practice facilitates the matching of the item with the corresponding bibliographic record. In addition to these numbers, other numbers may be assigned to individual records in various environments. Almost all machine-readable databases use accession numbers for direct access of individual records. Examples of these are the OCLC control numbers, and the DIALOG and SDC accession numbers. In the Monthly Catalog of U.S. Government Publications, each entry is assigned a "Monthly Catalog Entry Number" in addition to the Superintendent of Documents class number and an item number.

Most of the numbers of this type are assigned to the bibliographic records after the items are published, and therefore do not appear in the items themselves. An exception is the Library of Congress card numbers which were

originally designed for identifying specific records in the Library of Congress catalogs but are now assigned, in many cases, prior to the publication of the items and therefore are displayed in them. This system will also be discussed in detail later.

A brief survey of 115 machine-readable data files in the DIALOG online retrieval system identified numerous numbering systems used for the purpose of identification of items or records. Excluding classification numbers and codes referring to subject matters, there are at least ten numbering systems used by five or more databases as access points for retrieval of records:

DIALOG accession numbers (115 databases)
CODEN (24 databases)
Report numbers (14 databases)
ISBN (13 databases)
ISSN (12 databases)
Abstract numbers (12 databases)
Patent numbers (11 databases)
Contract/grant numbers (10 databases)
Library of Congress card numbers (7 databases)
Bureau/project numbers (5 databases)

A consequence of using numerous numbering systems is the multiple identifiers displayed in bibliographic records. For example, the AGRICOLA database in the DIALOG system includes the following fields: DIALOG accession number, ISBN, call number, contract number, CODEN, Superintendent of Documents number, Library of Congress card number, and ISSN. To give an example from a printed catalog, a typical entry in the Monthly Catalog of U.S. Government Publications may carry these numbers: the Monthly Catalog entry number, the OCLC number, an item number, a sales stock number, and the LC card number. All of these are, of course, in addition to the Superintendent of Documents class number, the Library of Congress class number, and the Dewey class number.

Naturally, all of these numbering systems have been designed to serve specific purposes. The question that may be raised here is whether the

proliferation of numbering systems is a result of uncoordinated individual developments or whether there are indeed unique purposes which require the use of each of the systems.

CODEN

History and Purpose

CODEN are unique six-character codes used for identifying periodicals and certain types of non-serial publications. The purpose of CODEN has been stated as follows:

> CODEN are used to aid in the storage and retrieval of information linked to published literature, to help in the preparation of bibliographies or compilation of references, and to improve general communication involving references to published material.[1]

The system was first proposed in 1953 by Dr. Charles Bishop[2] who developed and maintained the system and in 1954 published privately a list of 3,000 codes assigned to scientific, technical, and medical journals. In 1961, the American Society for Testing and Materials (ASTM) assumed responsibility for CODEN and broadened its scope to include all subject areas. Under the auspices of ASTM, a standard for the use of CODEN was developed. The first edition of a directory for the codes, entitled CODEN for Periodical Titles, listing 18,561 titles, was published in 1963, with a supplement appearing in 1964. The second and third editions appeared in 1966 and 1970.

In January 1975, responsibility for assigning CODEN was transferred to Chemical Abstracts Service (CAS) with the establishment of the International CODEN Service (ICS). The directory is now being issued on microfiche under the title International CODEN Directory.

A CODEN is assigned to each serial or nonserial publication that requests it. While CODEN are used mainly with serial publications, many nonserial publications, typically volumes of papers emanating from conferences, symposia, etc. and collections of papers, are also assigned CODEN. In addition, CODEN have also been assigned to patents and patent series.

Notation[3]

Each CODEN is a six-character alphabetic or alphanumeric code. The sixth character of each CODEN is the check character used for the purpose of facilitating computer verification of the preceding five characters. For a serial title, the CODEN consists of five alphabetic characters and the check character which may be either an alphabetic or a numeric character. The first four letters are mnemonic, based on significant words in the title. The fifth alphabetic character, called a grid character, is used for distinguishing identical four-letter combinations for different titles. (For examples, see Appendix). The CODEN assigned to a nonserial publication is non-mnemonic and consists of two numeric digits followed by two alphabetic characters, the grid character, and the check character. The CODEN for a patent or patent series always contains the letters "XX" in the third and fourth positions.

Foreign publications are coded under their original titles or transliterations thereof. Translations of periodicals are assigned different CODEN from the original titles. A new CODEN is assigned to a title whenever a significant change in the title occurs. Changes involving only articles, prepositions, or conjunctions are not normally considered significant.

Use

Assigned centrally by the International CODEN Service and listed in the International CODEN Directory, the CODEN appear on the covers of many periodicals, often alongside the ISSNs. Currently, CODEN have been assigned to over 157,000 serial and nonserial titles. The UNISIST/ICSU AB/ISDA-coded bibliographic strip[4] includes the CODEN as one of the elements. CODEN are included in many of the online databases for use as access points, as unique title identifiers, and as part of document ordering mechanisms. Of the 115 machine-readable databases in the DIALOG System, twenty-four include CODEN as compared to twelve that include ISSNs.

Initially developed in the United States, the CODEN System is also used to some extent in other countries. According to the International CODEN Service,[5] CODEN are also used in production systems at a number of abstracting and indexing services for title control and processing. Publishers and issuing agencies that use CODEN on their publications now include the Atomic Energy Research Establishment (Harwell, U.K.), Biological Abstracts, Battelle Memorial Institute, the U.S. Department of Energy, the Engineering Societies Library, Excerpta Medica, INSPEC, International Pharmaceutical Abstracts, Institute of Textile Technology, Midwest Research Institute, Pergamon Press, and Chemical Abstracts Service.

A natural question regarding CODEN is its relationship to ISSN. A comparison of the two systems has been made by Wall and Wilson.[6] A major advantage of CODEN, in addition to providing unique identification for serial and certain nonserial titles, is that they can be used in journal citations and references because of the brief code and mnemonic characteristic. The major disadvantage is that the use of Roman alphabetic characters renders the system incompatible with non-Roman alphabetic systems, and thus lessens the effectiveness of CODEN as an international system.

Standard Technical Report Numbers (STRN)

History and Purpose

The proliferation of technical reports since the 1940s has brought about a great problem in bibliographic control. Issuing agencies have long been assigning report numbers to their publications, but the lack of standardization has been a cause of great confusion and difficulty in identifying and retrieving technical reports. In 1974, the Standard Technical Report Number (STRN) system was developed and approved by Subcommittee 32 on Technical Report Numbering of the American National Standards Committee Z39 on Standardization in the Field

of Library Work, Documentation, and Related Publishing Practices. The standard contains the following statement of purpose:

> The purpose of this standard is to provide a uniform format for the creation of unique but compatible technical report numbers. The use of this standard will enable issuing organizations to assign to their reports numbers that will be compatible in format with those assigned by others. Indexing services will be able to provide lists of technical reports by number without confusion. Similarly, libraries, information centers, and other technical report users will be able to identify, locate, and easily organize the literature according to a consistent and accepted pattern. The standard will also enable users to cite reports efficiently and accurately.[7]

Notation

The Standard Technical Report Number (STRN) is an alphanumeric code consisting of two groups of characters: the report code which indicates the issuing organization and includes optional subdivisions or series, and the sequential group. Further addition of the year of publication and local suffixes may also be made. The maximum number of characters in the STRN is twenty-two of which no more than fourteen constitute the report code and no more than seven may be used for the sequential number.

(1) Report code. The report code designates the issuing corporate body or, in some cases, a series or a special series issued cooperatively by two or more corporate bodies. The report code has a minimum length of two characters and a maximum of fourteen. The first character is an uppercase letter; the remaining character or characters may be uppercase alphabetic characters or numeric characters. Up to two subdividers (slashes) may be used in the report code in any position after the first two characters to indicate subdivisons of the corporate body or to separate a series designation from the corporate body symbol.

(2) Sequential group. The second group of characters, separated from the report code by a group separator (hyphen), consists of Arabic numerals

assigned in sequence by each report-issuing entity. The first two characters of the sequential group may be the last two digits of the year of publication, followed by a subdivider (/) and a sequential number of one to four digits. If the year of publication is not used, the sequential group consists of one to seven digits following immediately the group separator.

(3) Local suffix. A local suffix may be added in this optional field by the issuing agency. It is not considered part of the STRN and may consist of any length and type of characters. It may be used to indicate type of publication, series, in-house number, subject, language, etc. The local suffix is preceded by an ampersand (&) or a plus sign (+) as a delimiter.

Use

The National Technical Information Service (NTIS) of the U.S. Government is the designated central authority for monitoring the system and coordinating the assignment of unique Report Codes. The individual issuing agencies are responsible for assigning the sequential numbers. Currently, close to 400 Report Codes have been registered by NTIS. Although the standard for technical report numbers has existed since 1974, it has not been as widely adopted as one might wish. It appears that many issuing agencies continue to use the systems developed individually prior to the development of the standard. Nonetheless, even though the prescribed format of the STRN is not always followed by issuing agencies, there appears to be a common pattern of report numbering which is compatible with STRN. The report numbers assigned by most agencies contain an initial alphabetic, mnemonic code identifying the issuing or sponsoring agency, followed by a sequential numberic code.

History and Purpose

The Library of Congress Card Number (LCCN) system was first introduced in 1898 for the purpose of identification, ordering and stock control of Library of Congress printed cards.[8] A unique LC card number is assigned to each

cataloging record to be included in the Library of Congress catalogs and the LC MARC database, including records for those nonbook materials cataloged by the Library of Congress. The number constitutes an element of the LC cataloging record and is included on LC printed cards, LC printed catalogs, proofsheets, cataloging-in-publication (CIP) data, and MARC records. The number may be preassigned prior to publication of an item, or assigned at the time the cataloging record is prepared. Currently, for publications issued by publishers who participate in the CIP program, the LC card numbers are assigned when CIP data are prepared.

Notation[9]

Since its inception at the beginning of the century, the LC card numbering system has undergone a number of changes. Currently, the card number portion has been fixed in length at twelve characters divided into the following elements:

Name of Data Element	Number of Characters	Character Position in Field
Alphabetic Prefix	3	ø-2
Year	2	3-4
Serial Digit	6	5-1ø
Supplement Number	1	11
Suffix and/or Revision Date	Variable	12-n

(1) Alphabetic Prefix. An LC card number may or may not contain an alphabetic prefix. When present, the prefix consists of one to three alphabetic characters. In the machine-readable record, the prefix appears as lowercase letters and is left justified with blank fill. The numbers in the "regular" series, i.e. those assigned currently to books in the general classified collections of the Library of Congress, carry no alphabetic prefix. In numbers assigned before 1969, the prefix normally indicates the origin of the catalog

copy, for example, the prefix Agr designates a catalog copy provided by the National Agricultural Library.

(2) Year. An LC card number always contains a one or two-digit year which is right justified with leading zero fill in the machine-readable record. With the exception of the numbers assigned during the period from April 1969 to February 1972, the year portion of the number represents the year in which the number was assigned to a bibliographic item. During the 1969-1972 period, a "7-series" notation was used instead. In these numbers, the initial digit "7" was followed by a modulus-11 check digit. In 1972, this practice was discontinued and the "year series number" was reinstituted.

(3) Serial Digit. The "year" portion of the LC card number is always followed by one to six serial digits, right justified with leading zero fill.

The combination of the alphabetic prefix, year, and the serial digits provide unique identification for the bibliographic record.

(4) Supplement number. The supplement number was originally intended for bibliographic records of supplementary items such as indexes and supplements which would carry the same LC card number as the main work. However, the decision was then made to catalog supplementary items separately with their own unique LC card numbers. As a result, the character position for the supplement number will always contain a blank.

(5) Suffix and/or revision date. Some LC card numbers contain suffixes or alphabetic identifiers which are carried as variable length data following the supplement number and one slash (/). The suffixes or identifiers do not affect the uniqueness of the numbers. The alphabetic identifiers are used by the Library of Congress to indicate distribution information for card copy. Some examples are: S (for serial publications), AC (for the Annotated Card program), Lim (for limited cataloging), and CIP (recently added for cataloging-in-publication).

When an LC cataloging record is revised, the original LC card number with

a revision date is assigned to the revised record. The date appears in the form of the lowercase letter "r" followed by the last two digits of the year. A third digit is added to indicate further changes made to the record. Thus, "r69" means that one major change has been made to the record in 1969, and "r693" means that three major changes have taken place, the third being in 1969.

Use

For many years, the LC card numbers have been used as the most efficient identifiers for ordering LC printed cards which have been distributed by the Library of Congress since 1902. Originally designed as a device for stock control of the Library of Congress printed cards, the LC card numbers are now being used for various other purposes related to bibliographic control. In most of the monographs issued by trade publishers in Canada and the United States, the LC card numbers appear on the verso of the title page. Many of the trade catalogs, current book lists, and bibliographies also include the LC card numbers in their entries. An example is the "Weekly Record" section of the Publishers Weekly which lists current U.S. trade publications. In addition, most of the bibliographic databases, e.g., OCLC, BALLOTS, CAS (Chemical Abstracts Services), etc., include LC card numbers in their records and many use them as access points.

Conclusion

In closing, I would like to review briefly the functions and characteristics of most of the numbering systems as well as their contributions to bibliographic control.

The main purpose of these numbering systems is to provide unique identification of individual items and/or bibliographic records. For publishers or producers of information media, the main purpose of using these numbers is to facilitate stock control. For bibliographic systems, the primary function is to enable efficient and effective identification of individual items and the

storage and retrieval of bibliographic records. To achieve these purposes, the following characteristics of numbering or coding systems can be identified:

(1) The numbers must be unique. This is achieved by using unique combinations of characters. In order to attain this, there must be a central agency which assigns or coordinates the assignment of the numbers.

(2) There must be a built-in sequential order. This is necessary for the arrangement or organization of bibliographic records and their retrieval. The notation used is generally Arabic numerals, letters of the alphabet, or a combination of both. In order to ensure uniqueness, the use of Arabic numerals exclusively is almost mandatory if the numbers are being assigned simultaneously by numerous agencies, as in the case of ISBN and ISSN, where blocks of sequential numbers may be appropriated to individual agencies for assignment. In systems where one central agency is responsible for assigning the number, as in the case of CODEN, combinations of letters and Arabic numerals may be used.

(3) Mnemonics are sometimes used. In a number of systems, limited to those using a mixed notation of letters and numerals, an attempt is sometimes made to attach meanings to the notation. Examples are the CODEN and STRN systems, where the notation is based on the titles of publications or names of issuing agencies. The use of mnemonics enables a system to be used for purposes other than the storage and retrieval of bibliographic records. For example, one of the purposes of CODEN is to provide an easy method for citing and referencing journal articles.

In conclusion, the use of numbers and codes in bibliographic systems provides ready identification of individual bibliographic items in areas of acquisition, interlibrary loan, cataloging, indexing, and record retrieval, particularly in cooperative projects and networks. Greater efforts in standardization and coordination of numerous existing systems for numbering and coding will further enhance their effectiveness in bibliographic control.

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2. Charles Bishop, "An Integrated Approach to the Documentation Problem," American Documentation 4 (1953):54-65.

3. International CODEN Directory: Introduction and Users' Guide, 1980-1981 Supplement, Columbus, Ohio: International CODEN Service, 1982.

4. United Nations Educational, Scientific, and Cultural Organization (UNESCO), and International Council of Scientific Unions Abstracting Board (ICSU AB), Guidelines for the Coded Bibliographic Strip for Serial Publications, Paris, 1975, 14 pp.

5. Robert S. Tannenhill, Jr. (Library Manager, ICS), Correspondence, 23 March 1982.

6. R. A. Wall and C. W. J. Wilson, "Codification of Periodical Titles: A Note on ASTM CODEN versus Standard Serial Numbers," Library Association Record 72 (1970): 188-190.

7. American National Standards Institute, American National Standard Technical Report Number (STRN). (ANSI Z39.23-1974) New York: American National Standards Institute, 1974, p. 6.

8. David Remington (Chief, Cataloging Distribution Service, Library of Congress), Correspondence, 30 March 1982.

9. Library of Congress, MARC Development Office, "Library of Congress Card Numbering System," Washington, D.C., 1976.

APPENDIX

Examples of CODEN:

JACSAT	Journal of the American Chemical Society
JACSBU	Journal of Applied Chemistry, Supplementary issue
RAREAE	Radiation Research (New York)
RAREBF	Radioisotope Report (Washington)
RAREDH	Ragan Report (Chicago)
11KSAU	Large Radiation Sources in Industry, Proceedings of a Conference on the Application of Large Radiation Sources in Industry and Especially to Chemical Processes
28KBA5	Medical Radiation Biology (1973)

Examples of STRN:

MTR-3194
(a report by the Mitre Corp., Bedford, Mass.)

METPRO/ERR-74/216
(Metallurgical Processing Corporation. Engineering Research Report. 1974, 216th report)

METPRO/CB/TR-74/216&PR-ENV-WI
(Metallurgical Processing Corporation. Chicago Branch. Technical Report. 1974, 216th report. A progress report on environmental research in Wisconsin)

Examples of Library of Congress Card Numbers:

Number on Printed Card	Number in Machine-Readable Record
66-62684	␣␣␣66␣626846
A66-111	a␣␣66␣␣␣111␣
Agr64-476	agr64␣␣␣476␣
65-77628/MN	␣␣␣65␣77628␣/MN
58-62665 rev‡ (Double daggar indicates "limited cataloging"; when printed from machine record, printed as "Lim" beneath card number)	␣␣␣58␣62665␣/L/r58
75-4576 ("AC" printed below card number)	␣␣␣75␣␣4576␣/AC
79-139101 ("AC MN" printed below card number)	␣␣␣79139101␣/AC/MN
SA68-88 ("r69" appears as part of revision information)	sa␣68␣␣␣88␣//r69
74-4605 ("AC" printed below card number; revision information printed as ‡r75‡ rev)	␣␣␣74␣␣4605␣/AC/r75
73-2284 (revision information printed as ‡r75‡ rev2)	␣␣␣73␣␣2284␣//r752

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Division: Bibliographic Control

Section: CLASSIFICATION AND SUBJECT CATALOGUING

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A PROJECT UNDERTAKEN BY THE LIBRARY OF UNIVERSITE LAVAL TO ADAPT THE *LIBRARY OF CONGRESS SUBJECT HEADINGS* INTO THE FRENCH LANGUAGE

by

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Meeting
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A PROJECT UNDERTAKEN BY THE LIBRARY OF UNIVERSITE LAVAL

TO ADAPT THE *LIBRARY OF CONGRESS SUBJECT HEADINGS*

INTO THE FRENCH LANGUAGE

I- INTRODUCTION

The Library of Université Laval began its project of adapting the *Library of Congress Subject Headings* into French almost twenty years ago. Very specific needs caused this undertaking. The *Liste des vedettes-matière de Biblio*, the only other comprehensive subject list in French, no longer met the requirements for classification in university libraries. Therefore it was necessary to find another bibliographic tool. The *Library of Congress Subject Headings* list was chosen because, in a North American context, cataloguing and classification are done, for the most part, from records provided by the Library of Congress and by other libraries using the *Library of Congress Subject Headings* list. For example, at the Library of Université Laval, the percentage of documents that find cataloguing copy in the data base amounts to 75%, most of which contain only English subject headings.

Eight editions of the *Répertoire de vedettes-matière* were published by the Library of Université Laval between 1962 and 1976. Some fifty thousand (50 000) subject headings are presently stored in a file accessible to all the users of the automated bibliographic services offered by the University of Toronto Library Automation Systems (UTLAS). The data for subject authority records are coded in the CAN/MARC format. The ninth edition will be published shortly. It will be accompanied by two indexes, English-French and French-English, as well as by an introduction which will serve as a user's guide. The *Répertoire* will be kept up-to-date by means of supplements.

In order to accomplish a project of this magnitude the Library has enlisted the aid of several other organizations, among which one should mention the National Library of Canada and the Bibliothèque nationale du Québec.

II- ADAPTING THE *LIBRARY OF CONGRESS SUBJECT HEADINGS* INTO FRENCH

The *Répertoire de vedettes-matière* is not a systematic translation of the *Library of Congress Subject Headings*. It has developed as a result of certain needs experienced by various libraries and documentation centres while classifying their material. These bodies, which serve a diverse clientele, are constantly in touch with the subject headings librarians responsible for the maintenance of the *Répertoire* and regularly send them their requests and suggestions for subject headings. Such an exchange of information results in the creation of subject headings that are applicable and useful for all types of libraries, be they public or research libraries. Children's libraries are not forgotten although the *Répertoire* does not yet completely answer their specific needs.

General methodology

Requests for establishing subject headings can arrive in French as well as in English. The procedure varies according to the language. If a French term is submitted, it is checked against the *Répertoire* to see if a synonym or a quasi-synonym already exists. If so, it is determined whether the new term is more current or more popular in usage than the existing heading, in which case the heading is changed. If the term does not replace the actual heading, it becomes, in most cases, a see-reference to the heading. In the case where the term represents a subject or a notion that is not already included in the *Répertoire*, a search is undertaken in *Library of Congress Subject Headings* to determine the English equivalent. If a corresponding English term is not found, the French subject heading is created without an English equivalent, or a more general French heading is used.

If the requested term corresponds to a heading in the *Library of Congress Subject Headings*, it is established as close as possible to the concept it conveys. In theory the construction of the *Répertoire* is based on the same standards used for the creation of the *Library of Congress Subject Headings*. Certain formulations, found in *Biblio* and in the French standard Z 44-070 are used in the creation of a large number of headings. The librarians working on the *Répertoire* have also compiled several guidelines to help in the construction of various categories of headings.

A certain number of subject headings do not present any particular difficulty for translation. Well-defined concepts in English usually have French equivalents that are readily apparent. For example:

Flowers = Fleurs

Physics = Physique

Some subject headings are more difficult to translate and therefore require additional research to determine the exact meaning of the English term in order to establish a French equivalent. The following methods of research are used:

1) Carefully read the network of references, especially see-references, that accompany each heading. The Library of Congress class number which often follows a heading can also help in understanding the English term.

2) Examine the item to be catalogued, even if it is not in French. It is also useful to consult the different volumes of the subject catalogues produced by the Library of Congress in order to determine what other titles of works have been assigned the same subject heading.

3) Look for a definition of the term or terms in a dictionary such as *Webster's Third New International Dictionary* and compare it to a definition found in *Robert* ou *Larousse* in order to define the term as precisely as possible.

4) Consult several specialized encyclopedias and dictionaries in order to ascertain the most current term found in the literature. Certain bibliographies, such as the *Bulletin signalétique* are also useful.

Establishing the headings

The construction and development of an encyclopedic type of thesaurus requires that the indexers pay strict attention to defining a term so as not to leave it open to imprecise or confusing interpretation. Uniterms, on the whole, should be used with caution in such a situation. The *Répertoire* is not simply the result of a compilation of specialized thesauri. A qualifying term which sometimes accompanies the heading may be an adjective, a word defining the subject field, etc. For example:

L.C.S.H.	*Répertoire*
Executives	Cadres (Personnel)
Inflation (Finance)	Inflation
Nails (Anatomy)	Ongles
Sanitary engineering	Technique sanitaire

The adaptation of the *Library of Congress Subject Headings* necessitates, in some cases, the creation of two French headings to represent one English heading and vice versa. This problem is the result of the historical development of the *Library of Congress Subject Headings* in the context of an Anglo-Saxon, and particularly, American culture. This situation is more apparent in the social sciences than in the pure and applied sciences. One has only to point out the importance given to headings dealing with ethnic minorities and to the vast number of chronological subdivisions under headings beginning with United States to illustrate this phenomenon. The judicial field is also a case in point. It is difficult to adapt headings in common law into similar concepts which are acceptable to countries where civil law is the standard. Even if the Library of Congress were to obtain a large number of foreign publications, it would not create the sufficient number of headings to adequately describe the administrative and social organizations of other countries.

Another aspect of this problem in adapting the *Library of Congress Subject Headings* is the collocation, under one heading, of all general works and of works unique to the United States or to the English language. For example:

Indians of North America

Indians of North America - United States
see Indians of North America

Shorthand

Here are entered general works on shorthand and shorthand for the English language.

Small business

Here are entered works on small independant enterprises as contrasted with "big business" in general and in the United States as a whole.

The Library of Congress should gradually replace such ethnocentric headings, and thereby make its subject list more relevant internationally.

Another problem arises in the differences found among institutions situated in various French-speaking countries. For example:

France	*Québec*
Communes	Municipalités
Aide judiciaire	Aide juridique
Lycées + Universités	Cégeps + Universités

In these cases the *Répertoire* chooses the Quebecois terms and includes the terms used in France as see-references. Libraries in France which use the *Répertoire* should replace the heading by the reference and treat the heading itself as a cross-reference. Obviously the *Répertoire* cannot include all the varieties of names of institutions found in French-speaking countries. Any improvements in this area can only come about as a result of comments received from users in these countries.

Finally, the adaptation of the *Canadian Subject Headings* list increases the number of uniquely Canadian subject headings used. However, since this list is not a part of the *Library of Congress Subject Headings*, it is often necessary to include two English terms for the same French term. For example, the heading Inuit has two equivalents: Inuit (C.S.H.) and Eskimos (L.C.S.H.).

Establishing the linkages

Once the heading is established, one could presume that there is nothing else to be done, since the cross-reference structure has already been determined by the Library of Congress. Such is not the case. It is necessary to translate, if applicable, the see-references associated with the English heading and to add to them any other references needed to express French concepts. Very few concepts have exact synonyms. However, since the design of subject headings permits the combination of narrower terms with more general headings, the addition of see-references ensures that a user is guided to the established headings. Certain general terms or expressions could become see-references to several headings. It is not necessary that such references be present in the *Library of Congress Subject Headings* in order for them to be created in French. It is rather a question of enhancing the access-points in the *Répertoire* in order to facilitate the retrieval of information by a user.

For example: Questions économiques

Voir Economie politique
la subdivision Aspect économique à différents sujets;
la subdivision Conditions économiques aux noms des pays, régions, villes, etc.

Relations commerciales

Voir Commerce
Relations économiques internationales
la subdivision Commerce aux noms des pays
la subdivision Relations économiques extérieures aux noms des pays suivis au besoin d'une subdivision géographique

Vie politique

Voir Politique
Participation politique
la subdivision Activité politique aux noms des catégories de personnes ou des catégories professionnelles, des types d'organismes ou d'organismes militaires;
la subdivision Politique et gouvernement aux noms des pays

As for translating "see-also" and "see-also from" references, no particular problem is encountered. However it is often necessary to modify the structure of the headings to take account of French syntax. For example:

Art teachers xx Teachers	Professeurs d'art xx Art - Etude et enseignement
Pulmonary hypertension xx Hypertension	Hypertension pulmonaire xx Poumons - Maladies

III- DISADVANTAGES AND ADVANTAGES OF SUCH AN ADAPTATION

In addition to the problems already mentionned, the fact that we depend on another organization for the development of the *Répertoire* constitutes the major disadvantage in our work. This dependence applies to the contents of the subject list as well as to the form of the headings. The following examples illustrate the extent of the problem.

1) The Library of Congress delays implementing changes to the see-references or to the headings themselves for very practical reasons, such as the number of cards or records which need to be updated. One can cite Contre-culture, Droit de la mer, Environnement... Many years elapsed before "Russia" was changed to "Soviet Union".

2) The creation of headings in the political, social and economic fields reflects the official point-of-view of the United States. The heading for China was ignored for a long time. There is no heading yet established to describe the proposed new economic order for the sharing of resources among all countries.

3) One notices a lack of uniformity in the form chosen for a heading. This practice probably stems from the fact that theories and rules for establishing headings have changed over the years, or perhaps subject specialists are too autonomous in their respective fields. We see headings with subdivisions, headings in direct order, as well as reversed headings. Recently, with the introduction of free-floating subdivisions, the use of subdivisions seems to have become the most popular. It is possible, but not in all cases, to avoid this problem by adapting the headings in the *Library of Congress Subject Headings* in a standardized form.

Unfortunately, contacts between the Library of Université Laval and the Library of Congress are infrequent due to several reasons. The amount of work that the Library of Congress has to deal with, coupled with the fact that we are required to suggest English terms found in English sources does not encourage fruitful exchanges between the two libraries. The subject-headings librarians find themselves almost in the same situation as other users of the *Library of Congress Subject Headings*. They are made aware of Library of Congress policies through its bulletins and announcements. They then decide whether the Library of Congress decisions apply in French as well.

Are these disadvantages counter-balanced by the advantages of adapting a list already in place? It is evident, from what has already been said, that the Library of Université Laval does not have to re-do the enormous amount of work already accomplished by the Library of Congress. More personnel and more subject specialists would be required to fabricate an encyclopedic thesaurus equal in quality to the *Library of Congress Subject Headings*. The Library of Congress also has a considerable reference collection in all areas of knowledge with which to work with, something which the Library of Université Laval does not possess.

Certain other advantages are evident in the adaptation of subject headings. The production of bilingual subject indexes is a great help to libraries and documentation centres when assigning subject headings to English materials. And which institution can say that it does not have items in English?

Francophone libraries in Canada and probably elsewhere depend on cataloguing records supplied by the Library of Congress to accelerate the cataloguing of their materials. The *Répertoire* contributes in part to this process by supplying the French equivalents to the headings in the *Library of Congress Subject Headings*. An interesting test was undertaken by the Library of the Université de Moncton in New-Brunswick to compare the links between the *Répertoire* and the *Library of Congress Subject Headings*. This library participates in an automated cataloguing

network. It has access to bibliographic records belonging to the Library of Congress and to other English-language libraries as well as to the data in the *Répertoire*. After choosing the appropriate records from the data base, the automated system replaces the English subject headings by their French equivalents whenever they are found in the *Répertoire*. More than 43% of the English terms were automatically substituted by the French terms through the use of this "translation" function. The number of matches will be much higher when subdivisions and geographic names are included in the *Répertoire*. This study presents interesting possibilities for the francisization of access-points to data bases at a reduced cost since each library can benefit from the translations already done.

IV- CONCLUSION

The adaptation of the *Library of Congress Subject Headings* has proven to be an enriching experience for all those involved. And the result of this effort, the *Répertoire de vedettes-matière*, has become more and more widespread as an instrument for analysing and classifying documents. Its success, nevertheless, does not prevent users from sometimes criticizing it or the *Library of Congress Subject Headings*; such criticisms usually centre around the fact that these two lists are based on a precoordinated controlled vocabulary. However developments in automated information retrieval, where full or truncated searching of subject headings and titles can be done using keywords, will make such a controlled vocabulary more flexible.

The increasing exchange of bibliographic data among libraries everywhere makes the adaptation of a thesaurus, such as the *Répertoire*, from one language to another even more important and useful. Can it be possible to hope for a link with a Spanish thesaurus?

This talk will end on this reflection and on the questions coming from the floor.

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IFLA's Standing Committee on
Classification and Subject Cataloguing

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48e conférence générale de l'IFLA – Montréal
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Montreal

DEWEY INTERNATIONAL

Introduction of the program by
John A. Humphry, Executive Director,
Forest Press Division, Lake Placid
Education Foundation, Albany, N.Y., USA.

The Forest Press Division of Lake Placid Education Foundation is pleased to present this program describing its commitment to the international advancement of the DEWEY Decimal Classification. Few people know that the Forest Press Division as publisher of the DEWEY Decimal Classification is not a commercial venture operating with a large staff in a huge metropolitan area. On the contrary, it is a division of an educational foundation with offices in Albany and Lake Placid in upper New York State. Forest Press is supported exclusively by sales of the Classification. The staff of the Press numbers but four, including me. When appropriate, the Press calls upon experts to assist in developing international editions.

A Committee appointed by the Foundation, the Forest Press Committee, establishes policy for the production and editing of the Classification. The Press is supported by an Editor and his staff in the Decimal Classification Division in the Library of Congress, Washington, D.C. An Editorial Policy Committee whose members are practicing classifiers and professors of library and information science meet twice a year to advise the Editor and the Press. A reputable book manufacturing firm handles our production and worldwide shipping.

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To open our program, I wish to introduce the Chairman of the Forest Press Committee, Walter W. Curley, who has been a successful librarian and businessman in the library field, having served in such prestigious positions as Director of the Cleveland Public Library in Ohio, and President of Gaylord Brothers, a well known international library supplier. Mr. Curley will describe the origin of the Press and its advance into the international market.

Dr. John P. Comaromi has had a successful teaching career, having served as a member of the faculties of library and information science at Western Michigan University and the University of California at Los Angeles. He is the author of many articles and books on librarianship and classification. Forest Press published his book entitled The Eighteen Editions of the Dewey Decimal Classification, which is an authoritative history of the Classification. Dr. Comaromi was appointed Chief of the Decimal Classification Division of the Library of Congress and Editor of the Classification in 1980. It is from this vantage point that he is to talk to us today about possible future changes and improvements in the Classification.

Dr. Mohammed M. Aman, Dean of the School of Library and Information Science, University of Milwaukee-Wisconsin, is an expert in the field of technical services and fluent in the Arabic language. He is the editor of Cataloging and Classification of Non-Western Material: Concerns, Issues and Practices, as well as the author of other library science studies. Dr. Aman serves as advisor to Forest Press in the preparation of an abridged edition of the DEWEY Decimal Classification in Arabic. Forest Press and Dr. Aman are working on this project with appropriate officials of the Arab League Educational, Scientific and Cultural Organization in Cairo and Tunis.

44/CLAS/2-E (B)

THE ARABIC DEWEY DECIMAL CLASSIFICATION

... presented

at the Standing Committee on Classification
and Subject Cataloging at the IFLA Conference
in Montreal, August 25, 1982

BY

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and

Forest Press Consultant on the Arabic DDC

I F L A

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Abstract

The Arabic Dewey Decimal Classification

by

Professor Mohammed M. Aman, Ph.D.

IFLA Conference-Montreal 1982

The paper traces the efforts by Arab librarians to translate and adapt the DEWEY Decimal Classification since 1947. In 1979 the first attempt to publish an Arabic edition of the 11th abridged edition of DDC was made and endorsed by the Forest Press Committee of the Lake Placid Education Foundation and the Arab League Educational, Cultural and Scientific Organization (ALECSO).

The paper outlines the major changes and modifications that have been incorporated in the ten classes of the Arabic Dewey to insure that the new edition is responsive to the needs of the Arab World and its culture, history and religion. Consultations were held with the Editor of DDC to insure that the original framework of DDC would not be destroyed and that lines of departure from the original DDC would be drawn to retain the integrity of the system.

Classification in the Arab Muslim World

The idea of subject approach to information and the classification of knowledge is traditionally rooted in Arabic culture, influenced by Aristotle's formal logic and his classification of knowledge.

Early Arabic-Islamic classification, like Muslim philosophy, was a Greek thought, expressed in Semitic tongue, and modified by Oriental influences.

The paper will not discuss the early history of Arab Muslim classification. The subject has been thoroughly treated in Aman's book entitled Analysis of Terminology, Form and Structure of Subject Headings in Arabic Literature and Formulation of Rules for Arabic Subject Headings (Pittsburgh, PA: University of Pittsburgh, 1968) pp. 10-66.

Modern Arabic classification on the other hand dates from the year 1947, when Philip Tarazi, who was then the National Librarian of Lebanon, first introduced his widely known Mūgaz al-Tasnif al-Ashri (Abridged Decimal Classification) (Beirut: n.p., 1947). In this Arabic version, Tarazi gives the French term opposite the Arabic.

In the same year, 1947, another Arabic version was published by Joseph Dagher as part of the second volume of his Manuel Pratique de Bibliographie et de Bibliothéconomie à l'Usage des Pays du Proche-Orient (Beirut, 1947).

Later, in 1952, an Iraqi version of the third summary of DDC was published in Baghdad by Nihad Abul Majid in his book The Art of Library Organization (Baghdad, 1952). These translations did not attempt to affect the fundamental characteristics or arrangement of the system.

In Egypt, a number of changes were introduced into the system, first by Khaled Hadidi in 1949. In 1955 a summary was published under the title Gadawil al-Tasnif al-Ashri (Schedules of the DDC) as part of al-Maktaba al-Madrasiya al-Haditha (Modern School Library) (Cairo: Dar al-Ma'arif for the Egyptian Ministry of Education, 1958). Shortly after the appearance of the fifteenth standard edition and the ninth abridged edition of DDC in 1952, Mahmud al-Sheniti and Ahmad Kabesh published a translation of the abridged edition in 1961.

In most of these and in other translations and/or adaptations, the third summary of the DDC is always the target of variations which apply to divisions and subdivisions in religion, law, literature, and history. In most cases, efforts were made to allow more room for Islamic religion and law, Arabic literature and history.

Another translation of DDC appeared in Saudi Arabia in the 1970s.

Efforts by some individuals have concentrated on reviving the old traditions of Arabic analysis of information in order to use them for the subject approach to library materials. Such an attempt was made by Gerald Tibbets, who was then the librarian at the University of al-Khartoum. He designed a system patterned after the Bliss Classification (Library Quarterly 29 (July 1959): 174-198). A similar attempt was made by Abdul Wahhab abul Nur from the faculty of the Department of Archives and Library Science at Cairo University. Both attempts are affected by the traditional Arabic schemes.

Evolution of the Arabic DDC

The first attempt to involve the Publisher and Editor of the DEWEY Decimal Classification was made in 1979 when Mohammed M. Aman, then Dean of the School of Library Science at Long Island University, and John A. Humphry, recently appointed Executive Director of the Forest Press Division of Lake Placid Education Foundation, conferred on the prospect of publishing an edition of the DEWEY Decimal Classification in Arabic. Dr. Aman, during his frequent consultant visits to Arab countries was being informed by library leaders there of the need for an up-to-date and complete edition of Dewey in Arabic, authorized and approved by Forest Press. Similar requests for an Arabic Dewey had been coming to the Press with expressions of urgency. Mr. Humphry, on behalf of the Forest Press Committee, asked Dean Aman to prepare a proposal for such an edition to be submitted to the Forest Press Committee at its April 1979 meeting. In his paper, Aman gave background information on DDC use in the Arab World and the unofficial attempts which had been made by individual Arab librarians to translate and/or modify the abridged editions of the DDC.

In his report, Dr. Aman indicated that 90 percent of the libraries in the Arab world use the DEWEY Decimal Classification (Directory of Libraries in the Arab World. ALECSO, 1973).

However, there are problems with the use of the present translations or adaptations of DDC. Paramount among these are (1) the lack of a standardized and widely accepted comprehensive Arabic translation or adaptation; (2) the lack of a relative or any other kind of index for

any of the Arabic versions; and (3) the lack of input from other professional librarians and/or scholars in the Arab world. As a result, it is not surprising to find several variations of translations and/or adaptations used in the same Arab country. None of the available versions, albeit outdated and brief, took into consideration the broader or global view of the Arab world and its comprehensive needs. The changes, therefore, were very provincial and localized. None had the mechanisms to insure its revision and continued publication.

As open access became more common in Arab libraries, the problems associated with the use of the DDC received wider attention by Arab librarians and scholars. These problems can be summarized as:

1. Lack of sensitivity on the part of the original DDC to the needs of the Arab Muslim World. This is evident in the American edition, especially in the 200s, 300s, 400s, 800s and 900s and to a lesser extent in the 700s.
2. Lack of a standardized and widely accepted adaptation of the DDC in Arabic and the absence of a responsible sponsoring body or agency who could keep the Arabic adaptation current. The translation/adaptation of the 8th abridged edition of DDC, published by Sheniti and Kabesh, which is considered the best of the lot, is out-of-date and has outlived its usefulness.
3. Lack of Arab Islamic input into the original DDC.

Having identified these major problems, which are based on his experience with Arab libraries and librarianship, Professor Aman then proceeded to propose to the Forest Press Committee the following recommendations:

1. That an Arabic modification of the DDC classification be published under the editorial direction of Arab librarians and scholars.
2. That modifications of the DDC should be responsive to cultural, social, religious, linguistic and historical needs of the Arab Muslim World.
3. That the modified Arabic DDC be published or endorsed by Forest Press and an Arab organization such as ALECSO.[1]

The Forest Press Committee reviewed and later approved the recommendations in June 1979, and authorized the Executive Director, Mr. John A. Humphry, to explore possibilities for outside funding to support the conduct of a market and needs assessment study. Also, as a result of its review, the Committee authorized Mr. Humphry a sum not to exceed $10,000 for investigating the viability of the project. In September 1979, Mr. Humphry wrote Mr. Warren J. Haas, President of the Council on Library Resources (CLR), seeking additional funding for the project.

In November, the Council on Library Resources approved a grant of $6,000 for the project, which in addition to the $10,000 from Forest Press brought the total to $16,000 to support the feasibility study. In the meantime, a letter from Mr. Mahmud al-Akhras, an ALECSO documentation expert, was received by Forest Press. The letter requested permission from Forest Press to translate the DDC into Arabic. To this Mr. Humphry replied on December 4, 1979: "...We too have projected for 1980 and beyond, plans to consider preparing a Dewey in Arabic for libraries in the Arab World. It is the present plan of Forest Press to investigate the feasibility of issuing a Dewey edition, unabridged,

abridged, or both, as soon as positive need can be established. I have been authorized by the Forest Press Committee of Lake Placid Education Foundation to visit countries that comprise the Arab World, visit with professional people like you, as well as librarians and educators to determine the most advantageous course to pursue in reaching our goal. Forest Press will have the services of a highly respected librarian, well-informed on these subjects, in the United States, Dr. Mohammed M. Aman, who will tour with me, and advise the Forest Press Committee and me on this proposed venture.

I shall appreciate your help, your reactions and any further information you may wish to supply. May I ask that you hold in abeyance any plans for translation until we have discussed the matter further during my projected visits..."

While Forest Press has been generous in granting permission to responsible international groups for translating and adapting the English-language editions of the DEWEY Decimal Classification, the Press recently has adopted a three-part policy for approving these editions. First, the Executive Director of the Press must be involved in the planning for the project, second the Editor must be consulted and approve adaptations in the Classification to accomodate cultural requirements, and third, a royalty must be paid the Press for the right to prepare such international editions.

As a result of Mr. Humphry's tour of select Arab countries and after consultation with Dr. Mohammed Sheniti, former Director of the Egyptian National Library, Dr. Saad al-Hagrasi, former Chairman of the Department of Archives and Library Science at Cairo University, and Mr. Jesse Duggan and staff of The American University in Cairo, he found that

there was a definite interest and need for an Arabic edition of DDC that could accomodate the needs of the Arab-speaking countries and the needs of Arabic Islamic culture.

On June 1, 1980 Mr. el-Akhras informed Messrs. Aman and Humphry that "...The Consultative Committee of our Department (ALECSO's Documentation and Information Department) representing six Arab countries will meet from 26-31 January 1980 to plan for the execution of our 1980/81 programmes and projects. I will inform the Committee about your plans, and I can assure you that our project for the Arabic edition of Dewey abridged edition will be postponed until you visit us and discuss all possible aspects of cooperation..."

On January 25-26, Professor Aman met with the Consultative Committee in Amman, Jordan and agreement was reached on the broad outlines of the modified Arabic DDC.

On May 22nd, Messrs. Aman and Humphry, representing Forest Press, arrived in Tunis to meet with representatives of ALECSO, including the Director General, Dr. Muhy-el-Din Sabir. The two parties spent four days discussing the proposed Arabic edition of DDC and details of the agreement between ALECSO and Forest Press to insure a quality Arabic DDC with input from all concerned parties and key Arab librarians and scholars.

At the first meeting Mr. al-Akhras gave a background report on ALECSO's previous efforts to respond to recommendations by Arab librarians and ALECSO's technical committees to produce an Arabic edition of DDC. He then gave a detailed report on the recommendations for modification made by the Technical Committee on the Infrastructure of Documentation and Information Centers in the Arab World. Forest Press

representatives promised to take the Committee's recommendations into account. Some business details regarding production, distribution, and royalties were also discussed.

It was agreed at the meeting that two librarians who are very conversant with the DDC and are presently working in Saudi Arabia would handle the translation and modifications as agreed to at the meeting. The two librarians are Mr. Fouad Ismail Fahmi, Head of the Cataloging Department, King Abdul Aziz University Library in Jeddah, Saudi Arabia, and Dr. Helmi Mohammed Foudeh, Chief Librarian, Islamic Bank for Development. They would be assisted by other librarians in Baghdad, Iraq, Amman, Jordan and Jedda, Saudi Arabia.

At another meeting, in August 1981, which was attended by the new Director of ALECSO's Department of Documentation and Information, Dr. Mohammed Khafa-ji, ALECSO and Forest Press representatives met to discuss the final Arabic modifications in the Arabic DDC.

Arabizing DDC

The proposed Arabic Dewey is based on the notion that in the Arabic edition, Islam and the Arab World should come before Christianity and American and/or English topics or occupy an equally prominent place, especially in the Social Sciences, Humanities, Literature, History, and Geography.

The understanding reached with ALECSO's counterparts was that there will be limits beyond which Forest Press would not go, for the original framwork of DDC cannot be destroyed. Guidelines for departure from the original DDC would be drawn up to retain the integrity of the system. Furthermore, the Arabic edition will draw on the expertise of past Arab efforts to translate or modify the DDC, a panel of experts

will react to the Arabic edition in its draft form, and the Editor of the DDC, Dr. John P. Comaromi, will be consulted on any variations and changes from the original eleventh abridged edition.

It was also felt that changes recommended by Arab librarians and specialists would help internationalize the original DDC, making it more sensitive to other cultures and religions.

The Arabic edition is in two components: the first is a translation of subjects which are neutral or do not need any modifications. The second is a translation of subjects which need to be modified to fulfill the needs of the Arab Islamic World; some of these modified numbers are based on the expanded numbers in the unabridged 19th edition of DDC.

The basic notion in the modified Arabic edition is that the first place in the notation should be reassigned to the Arab World and the second to North America and the U.S.A., thus reversing the original order in DDC. Furthermore, American and English as language subdivisions will be combined.

The following sections represent the specific changes made by the Arab editors, as presented to and approved by representatives of Forest Press including the Editor of the DDC.

000 Generalia

000 General Encyclopedias

The changes in the Arabic edition reflect the official option in DDC.

031 Arabic Encyclopedias

Instead of American encyclopedias which is moved to 032.

032 English and American Encyclopedias

051 Serials in Arabic

Instead of American and British serials which is moved to 052

052 English and American Serials and Periodicals

061 Arabic and Islamic Organizations and Societies

Originally assigned to North America which is moved to 068.7

062 British Organizations

068.7 Organizations in North America (formerly 061)

Includes the U.S. and Canada

071 Journalism and Newspapers in the Arab World

079.7 Journalism and Newspapers in North America

081 Collections in Arabic

082 Collections in English (including American Collections)

Under 091 Manuscripts, Arabic Manuscripts comes first under 091.1 and Manuscripts in other languages follow, e.g. 091.2 American and English manuscripts, 091.3 German manuscripts, etc.

100 Philosophy

This class clearly shows the extent to which the original DDC was based on the concept of serving the needs of the Western World. Changes in the 100 class in the Arabic edition concentrate on the use of 181.1 for Islamic Philosophy, as a subdivision of Eastern Philosophy in 181, followed by Ancient Egyptian Philosophy in 181.2, Ancient Philosophy in Palestine 181.3, Philosophy in the Middle East and South East Asia 181.45 and Philosophy of Mesopotamia including Babylonian, Assyrian and Kaledonian Philosophy in 181.6.

Under 189 Medieval Philosophy, the number 189.1 is assigned to Islamic Philosophy while 189.9 represents Western Philosophy, 191 Contemporary Arabic and Islamic Philosophy, while 192 stands for Contemporary Philosophy

in the British Isles (originally 192). U.S. and Canadian Philosophy is assigned to 199.7.

200 Religion[2]

201 through 219 are used for Islam and 220 for the Quran. Christianity and Christian thought are assigned from 230 to 280 and their subdivisions are listed under 230.1 and 230.2-.3. 297 is unassigned. 298 is used for natural language. Other religions are assigned 299.

The changes in the 200s may not necessarily meet the requirements of the official option (see Ed. 19, Vol.2, p. 96). The Editor of the DDC felt that 210 should be enough and recommended adding numbers from 297 to base number 21.

300 Social Sciences

This class is adapted in order to accomodate the Arab World. This was a chance to fully develop a class, incorporating and transcending all previous Arabic translations and adaptations. An effort was made to integrate the work of current experts, scholars and subject specialists with previous Arab efforts and to produce a fully developed adaptation.

Questions were raised about established political parties in the Arab world and whether they should be divided by country followed by a standard number for each party (e.g. Nationalist, Communist, Socialist, Ba'th, Constitutional, etc.)

There was also extensive discussion about Zionism and whether it should be classified as a party, ideology, or as a national or international movement, or somewhere else. It was agreed that 320.54 will be

the number for "Zionism," thus putting it under Social and Political Science instead of at 956.94001, which is used in the original edition.

324.2 is subdivided further with appropriate modifications and expansions to accomodate Arabic subjects. The expansions here are based on the 19th unabridged edition.

Islamic law is shifted from 340.59 to Islamic religion in the 200s (now in two sections).

Polygamy which is mentioned as an example of a criminal offense in 364.183 is omitted since it is legally practiced, albeit on a limited basis, in the Arab world.

Religious education is an important topic in the Arab world and therefore 372.84 is assigned in the Arabic edition to this topic.

Cultural and legal differences also show up in note statements in the original DDC as is the case under 362.6 where the age designation of 65 is mentioned. Arab classifiers felt that 60 is the age of retirement in the Arab World and therefore should be used instead, or omitted.

400 Language

Modifications are made in this class by moving linguistics and related subdivisions to 400 and inserting Arabic language in 410 and its subdivisions. In addition, there are certain linguistic groups that should be incorporated with the Arabic language - such as Northern Arabic language, Southern Arabic language, and nonstandardized Arabic such as Maltese, etc.

500 and 600 Pure and Applied Sciences

There are no changes here except that Islamic Calendars are assigned the number 529.321 which is modified according to the subdivisions under Islam.

700 Arts

708.1 is used for the Arab World and 708.97 for North America. Ancient Oriental Architecture is reserved a special place with subdivisions in 722.1-722.5. Islamic architecture (including Moorish and Mudejar) is divided historically and geographically in 723.3.

Mosques and Minarets are assigned the number 726.2 with the possibility for expansion for specific mosques and/or geographical subdivisions by using standard subdivision 09.

800 Literature

Arabic literature is assigned to 810 and Literature of English and Anglo-Saxon Languages is moved to English Literature in 820 with further subdivisions by adding a letter designating the country such as "AS" for Australia, "AN" for English, "K" for Canadian and "AR" for Ireland. These prefixes are transliterations from the Arabic corresponding letters.

900 History

Details of Arabic Islamic history are assigned new numbers based on the revisions and adaptations made by the University of Jordan. The Arabic edition attempts to group the Arab countries closer together in the history tables instead of dispersing them between Asia and Africa

as is done in the 19th edition. Thus, under 961 North Africa, the subdivisions are: 961.1 Tunisia, 961.2 Libya, 961.4 Morocco, 961.5 Algeria. Egypt remains in 962 but Sudan is assigned its own number under 963 followed by other countries and allowing for the possibility of adding new countries such as Iriteria under 967.72.

This section is the most extensively revised of all those undergoing modification.

Zionism is moved from 956.94001 to 320.54 along with the PLO.

Tables

Table 1 Standard Subdivisions are revised to accomodate changes in the notation for the Arabic language. Table 2 Areas is equally modified to include scope notes under sections that can be subdivided from 3 to 9 by language, race, and religion, such as —174 regions which are dominated by race and/or national origin, —175 regions which are dominated by a language group, and —176 regions which are dominated by a certain language.

In addition, subdivisions for the ancient world, especially those in Arabia (Carthage, Tripoli, Cirenaica, etc), are added.

Table 3 Subdivisions of Individual Literatures is divided into subdivisions to accomodate Arabic literature.

Table 4 Subdivisions of Individual Languages is revised to represent subdivisions of the Arabic language.

Table 5 Racial, Ethnic, and National Groups is revised to incorporate various ethnic groups that are not represented in the original

edition, such as: Semites, Maltese Arabs, North Africans, Copts, Berbers, Somalis, etc.

Table 6 Languages is revised to incorporate other linguistic groups such as Northern Arabic Languages including Maltese, Southern Arabic Languages, Egyptian Languages (931), Coptic Languages (932), Berbet Languages (933), and Kushati Languages (935).

Table 7 Persons is modified on the basis of Table 5. Persons in religion is revised in conformity with modifications in the section on Islam.

NOTES AND REFERENCES

[1]The acronym ALECSO stands for the Arab League Educational, Cultural and Scientific Organization. It is an organization of the Arab League which was established in Cairo in August 1970. ALECSO, temporarily located in Tunis since 1979, consists of five departments, each of which specializes in a particular field such as education, science, culture, and information. Attached to ALECSO are eight specialized centers and institutions, some of which, such as the Institute of Arabic Manuscripts, Institute of Arab Research and Studies, and the Arabization Co-ordination Bureau, were formerly attached to the General Secretariat of the Arab League..

The Department responsible for the work on the Arabic DDC is the Department of Documentation and Information (DDI). Its main objectives are:

1. To develop infrastructures of documents and information centres in the Arab countries;

2. To provide bibliographic services, using developed techniques and new technology;

3. To promote the capabilities of librarians, documentalists and archivists through library training courses, conferences, seminars and symposia, etc.;

4. To collect basic information on the Arab countries, particularly in the specialized subjects of ALECSO, and to make this information known worldwide.

[2]Detailed subdivisions of Islam are based on other scholarly works including: Bibliographic Classification of Islam...(al-Tasnif-Bibliografi li 'ulum al-Din al-Islami...) by Abdul Wahhab Abul Nur, Cairo: Dar al-Thaqafa, 1973; Comparative Study of Select Bibliographic Classification Schemes...(Dirasa Muqarana li-Ba'd Khitat al-Tasnif al-Bibliografi li-Istinbat al-Usus li-Khita 'Arabiya lil-Tasnif.) Master's Thesis, Cairo University, 1967.

Abstract

PROJECTED CHANGES AND IMPROVEMENTS
IN THE DEWEY DECIMAL CLASSIFICATION

By

John P. Comaromi

Editor

DEWEY Decimal Classification

Changes under consideration for the DEWEY Decimal Classification are the life sciences 560-590, education 370, music 780, and a new concept in indexing. A beginners' guide and a map manual are under preparation to supplement the recently published Manual on the Use of the DEWEY Decimal Classification: Edition 19. The possibility of issuing two major revisions between editions is under discussion.

44/CLAS/2-E
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PROJECTED CHANGES AND IMPROVEMENTS IN THE DEWEY DECIMAL CLASSIFICATION

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John P. Comaromi

Editor

DEWEY Decimal Classification

All changes in the DEWEY Decimal Classification are improvements; or so we think. Changes occur in either the Classification itself or in how we assist users in applying the DDC.

I. Changes under consideration for the Classification in the near future are:

A. Further development in the area tables of areas now insufficiently developed.

B. Complete revision of:

1. The life sciences 560-590. The taxonomic classes of 582-589 are outdated; they will be redone completely. 592-599 will be expanded.

2. Education 370--already near completion. We have tried to provide for most of the educational levels and practices of the world.

3. Music 780--now being applied in advanced draft form at the British Catalogue of Music. This proposed revision is currently being tested in some music libraries.

C. Substantial revision could occur in the following areas:

1. Data processing 001
2. Law 340 (Citation order to be changed from present order to that of jurisdiction followed by branch of law)
3. Mathematics 510
4. Buildings 624/690/710/720

D. It is almost certain that a new style of relative index will be provided for Edition 20, one based on different principles and more responsive to literary warrant.

II. Changes in assistance in applying the DDC. Strictly speaking, until recently there has been relatively little assistance in applying the DDC; this lack we hope to change.

A. Already published is the Manual on the Use of the DEWEY Decimal Classification: Edition 19, which was devised for practicing classifiers and is the fullest manual ever provided for any classification, perhaps for any library tool.

B. In a year or so, we will have finished work on a guide for the beginning classifier or student, appropriately titled Beginners' Guide to the DEWEY Decimal Classification.

C. In a year or so we will have finished a map manual for use with the DDC. It will be composed of 150-200 maps giving the DDC area numbers for the geographical units on the map.

III. For the long range, the pattern of presentation of the DDC could change as follows:

A. There could be three editions:

1. Abridged edition for smaller collections
2. Medium edition for the shelf arrangement of virtually any library
3. Bibliographic edition

B. Two major classes could be revised completely and issued as separates between editions. These revisions would be applied by the Decimal Classification Division of the Library of Congress as soon as they were tested by a few libraries and experts in the areas in question, and approved by the Editorial Policy Committee and Forest Press. The separates would (like the expansion of 301-307) include schedules, index, comparison of the location of topics in each edition, equivalence tables (edition to edition location of the contents of numbers), and a manual to assist in the application of the new schedule.

Some of the above changes will certainly be in effect by 1990. They represent an attempt on the part of the Decimal Classification Division to continue to update Dewey carefully and continuously, and to provide our users with as much guidance as possible in matters of application.

44/CLAS/2-E/(d)
Remarks.

Remarks by Mr. Walter W. Curley, Chairman, Forest Press Committee of Lake Placid Education Foundation and member of the Foundation Board of Trustees. Forest Press has offices in Albany and Lake Placid, New York, U.S.A.

Forest Press is a Division of Lake Placid Education Foundation, founded by Melvil Dewey in 1922 and chartered as an educational corporation by the Regents of the University of the State of New York. Mr. Dewey wished to establish an organization that would continue to advance his lifelong interests and commitments to education and librarianship.

While Mr. Dewey originally devised his Classification scheme primarily to serve the United States, late in the 19th century interest was expressed in adapting it for use by libraries in Europe, and Mr. Dewey gave permission for a French translation in 1895. Ever since that time, the Classification has increased in use, and by 1958 with the release of Edition 16, the editors of the Classification provided options for international use and application.

There have been many translations of the Classification, but in recent years Forest Press has made a concerted effort to work with authorized international groups to prepare foreign-language adaptations to accomodate various cultures. Our most recent such edition is in Spanish. Editions in Italian and Arabic are under preparation. With these developments, Dewey is becoming the most widely used classification in the world.

As our international use develops and grows, we wish to express our continued interest in hearing from users worldwide. Forest Press and the Dewey Editor and his staff always welcome constructive criticisms and suggestions, and will start publishing some of them in Dewey Decimal Classification: Additions, Notes and Decisions, more popularly known as DC&.

DC& enables Forest Press and the Editor to communicate directly with users of Dewey. Matters of general interest as well as corrections of errors in Edition 19, clarifications, updating, and expansions are published in DC&. Two issues of DC& have appeared since publication of Edition 19; one more will appear this fall, and as of 1983, purchasers of Edition 19 can expect to receive two issues a year, in the spring and fall. We hope this regular communication will serve our users well, and we invite all of you to peruse these and other Dewey publications at the Forest Press booth here at the IFLA Conference.

réseaux
48e conférence générale de l'IFLA – Montréal
22-28 août 1982
Fédération internationale des associations
de bibliothécaires et des bibliothèques

networks
48th IFLA General Conference – Montréal
August 22-28, 1982
International Federation of Library
Associations and Institutions

IFLA GENERAL CONFERENCE MONTREAL 1982

Division on Bibliographic Control

Section on Classification and Subject Cataloguing

49/CLAS/B-E.
119-CS

A " NETWORK " OF SUBJECT HEADINGS : THE " REPERTOIRE de l'UNIVERSITE LAVAL " ADAPTED BY THE BIBLIOTHEQUE NATIONALE - PARIS

by

Suzanne JOUGUELET
Conservateur responsable du Service
français de Catalogue-Matière .
Bibliothèque Nationale - Paris

Meeting
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A " NETWORK " of SUBJECT HEADINGS : the " REPERTOIRE de l'UNIVERSITE LAVAL " adapted by the BIBLIOTHEQUE NATIONALE - PARIS

- - -

I - THE ADAPTATION OF THE LAVAL SYSTEM INTO THE BIBLIOTHEQUE NATIONALE

I - I Short Historical Account

At the beginning of I980, the subject catalogue of the Bibliothèque Nationale came to the end of a twenty years time ; so, after a I936-I959 period, it had been found necessary to open a new file in I960. This catalogue was not built according to a thesaurus : it was in accordance with the I957 French standard, NF Z 44-070 : " Catalogue alphabétique de matières ", and was itself the autority; the indexers used the existing headings. It was an analytical catalogue, which proposed a very fine indexing.

Many questions were raised :

- The lack of staff did not allow to insure a sufficient controle and coherence of the catalogue.

- The vocabulary's evolution through twenty years had led to new notions and created problems to choose the terms.The need for a thesaurus was really felt at the moment of opening a new subject catalogue.

The " Répertoire de vedettes-matières de l'Université Laval " was chosen as a basis of an autority list of the Bibliothèque Nationale, because it was the only encyclopedic thesaurus in French. Furthermore it had been used since the end of I974 by the Bibliothèque Publique d'Information which, during our meetings, seemed really satisfied and had created an autority list from it. In march I980, a colleague from Quebec came and presented us the " Répertoire ", and we began to index the books with it since april I980.

So, it has not been a systematic adoption of the Répertoire; the headings were taken up one by one, on indexing the corresponding books. This way to constitute an autority list is different from that of the Bibliothèque Royale de Belgique which has begun to build a three lingual thesaurus English Dutch French from the " Library of Congress Subject Headings ".

At the end of I980, it was the turn of a French colleague to go and stay a fortnight at the Bibliothèque de l'Université Laval to solve the problems still existing after many months of use.

I - 2 The particular context of the Bibliothèque Nationale : Which Documents ? Which Staff ? For which Users ?

The Documents

The Subject Cataloguing Service has been divided at the

beginning of I980 into two different services corresponding to the two types of books in the Bibliothèque Nationale.

- The French books, entered by copyright deposit, announced by the Bibliographie de la France. It is an encyclopedic production with a very unequal scientific level, as it reflects the diversity of the French edition. The number of books indexed in the service is about I6 000 a year (We don't include the works of fiction, poetry, theater as we don't index them) . The cataloguing in this service is mostly original, except for the translations of foreign books indexed by The Library of Congress.
- The foreign books, coming from acquisitions and exchanges, with a dominant part of human Sciences and generally of a higher scientific level. The average number of indexed books is I7 000 a year. In this service there are American books with the L C indexing.

So, rather different books are indexed with the same thesaurus and come to the same catalogue.

The Indexers

In the present organization of work, I9 indexers work for the French and foreign services ; they are only concerned with the subject cataloguing - the descriptive cataloguing is a distinct service - in a different context from the Bibliotèque de l'Université Laval because the percentage of original cataloguing is very high. That probably explains the need for creating headings.

The indexers are grouped together according to intellectual specialities (Art and Literature, History and Geography, Sciences and Technics, Medicine, etc...), and besides, according to linguistic speciality for the foreign service. There is a separated team to manage the authority list. All the indexers at the same time catalogue the books and manage the authority list, though one person for each speciality (Sciences, Literature, History) is able to decide creations.

So, in two years, we have constituted a list of 20 000 headings : common nouns and proper nouns. This "Liste de Vedettes-matières de la Bibliothèque Nationale" is shown presently - besides the copies of works on listings - on microfiches and is kept up to date by cumulative supplements issued quarterly. It is automated.

The Users

The ISO TC 46/SC 5 of may I979, entitled "Principes directeurs pour l'analyse des documents, la détermination de leur contenu et la sélection des termes d'indexation", recommands to choose the most suitable concept for a selected group of users. For us these users are at first the researchers of the Bibliothèque Nationale who consult the subject catalogue. It seems

that in their specialities they rather refer to the bibliographies and that they consult the subject catalogue for questions not directly refering to their speciality.

At longer term, the users, as far as the national production is concerned, will be all these who get access to the data base and the output products (exchange tapes, etc..) including the subject indexing.

II - THE INDEXING PROCESS

The NF Z47-I02 standard " Principes généraux pour l'indexation de documents " gives the following definition :

" L'indexation est l'opération qui consiste à ... transcrire en langage documentaire les concepts après les avoir extraits du document par une analyse ".

In our Services, the analysis is done with the entire book in hand, which differs from the cataloguing in publication methods. The translation in a controlled vocabulary only consists in the attribution of headings : we don't give class numbers.

The consultation of the lists is made in the following order :

I - Répertoire Laval (8ème édition) +(I bis) quaterly Supplements on microfiches ;

2 - Authority list of the Bibliothèque Publique d'Information

3 - Library of Congress Subject Headings : 9ème édition + Supplements on microfiches

II - I In the cases I and 2, an existing Heading is chosen.

It is the most simple case. Nevertheless, there can be some problems : for example a choice between I and I bis. To which extent do we adopt Laval's modifications, which brings corrections ? Our choice depends on the interest we find in the modification. It happens that we keep it, as the former heading looks better to us.

Ex. : The 8th edition of Laval has the heading " Apprentissage " with a scope note precising the meaning " Apprenticeship " and makes a see reference for " Apprentis " — Apprentissage

X Apprentis

The supplement on microfiches changes that choice :

Ecoles de métiers	Apprentis
X Apprentissage	X Apprentissage d'un métier

We prefer to keep the heading Apprentissage.

Ex. Another choice is possible, between I and 2, Laval and Bibliothèque publique d'information, if different headings have been chosen :

Ex : Laval : B.N.I. :

MODELES	MODELES
VA (La subd. MODELES aux noms des différents objets)	Voir la subd. MODELES à certains sujets
X Modèles réduits	-Modèles réduits
X Modélisme	VA la subd : Modèles réduits à différents sujets.

II - 2 3 - Translation of Headings from L C S H

We usually adopt Laval's translation when it exists — case I

II - 2 - I But sometimes the translation exists, and is not exactly suitable for our needs.

Ex . The use of prepositions :

L C : Professional education of women — Laval : enseignement professionnel aux femmes . Bibliothèque Nationale : pour les femmes

L C : Office buildings : Laval - Immeubles à bureaux
Bibliothèque Nle - Immeubles de bureaux

Ex. Translation of certain notions :

L C : Literary Historians — Laval : Historiens littéraires
Bibliothèque Nle : Historiens de la littérature

L C : Educational Psychology — Laval : Psychologie pédagogique
Bibliothèque Nle : Psychopédagogie.

Sometimes the English term has been kept by Laval, and we prefer to translate :

L C : House boats — Laval : House boats
Bibliothèque Nle : Bateaux-Maisons/

II - 2 -2 In other cases, the translation has not yet been made

The problem, then, is to know wether Laval will adopt the same translation as we do, it can be, at the same time, making a different choice.

Ex. : L.C. — India - Scheduled tribes

We had translated : Inde - Tribus répertoriées, before finding in the Laval's microfiches some weeks later : Inde - Tribus spécifiées, which we have then adopted.

II - 2 - 3 Anyway, the translation is the source of some problems

The ideal situation where for one English term there is one Franch equivalent, is not always possible.

Ex. : "Speech " must be translated sometimes by PAROLE, and sometimes by LANGAGE :

Speech act — acte de parole
Speech and social status — Langage et statut social.

The question is rather delicate : sometimes the double translation can bother us

Ex. : The English adjective "ANCIENT" is translated sometimes

by " ANCIEN " (Civilisation ancienne, histoire ancienne, philosophie ancienne,), sometimes by "ANTIQUE" (art antique, orfèvrerie antique). We should prefer one translation.

On the other hand, we should like to translate " in education " sometimes by " dans l'enseignement ", in a restricted meaning, sometimes by " en éducation ", in a broader sense.

Ex.: LCSH can add a qualifying term for a word polysemous in English but not in French. Then, in French, the qualifying term is unnecessary :

Tablets (Paleography) — Tablettes
Tablets (Medicine) — Comprimés.

II - 2 - 4 But the main problem is that of the different structure of the two languages. - In English, the significant term is always put in front of the word. If we want to keep the same structure in French, we are obliged to reverse the terms and then to disrupt the usual order of the words.

Ex. : Pedestrian facilities design — Piétons, installations pour
Speech disorders — Langage, troubles du
Sugar workers — Sucre, travailleurs du

This inversion often allows to make the entry at the most significant term, which is interesting for a controlled language. But it is not always so :

Ex. : We can translate " Funeral rites and ceremonies " either by "Rites et cérémonies funéraires "
or by " Funérailles - Rites et cérémonies ".

The choice is of course made according to the coherence of the list.

We can choose not to make the inversion in French :

Ex.: Moving pictures producers and directors — Producteurs et réalisateurs de cinéma

II - 2 - 5 Another type of problems is related to the culture and the institutions The examples are numerous : preference for the English language . Ex : VOCABULARY (" Here are entered general works and works on English vocabulary ")

- American meaning given to some terms. Ex : LINGUA FRANCA

The American linguistics gives it a very broad meaning whereas the European meaning is much more restricted.

More generally, the history of the United States, the Indians of North America, the Black Americans are favoured subjects.

In the religious field, the Christianism predominates ; nevertheless there is a tendency to develop the headings about Islam and Buddhism.

The institutions are different, especially in the field of Education and Law.

The case can be simple : some institutions exist in a country as they don't exist in another. The heading corresponding to the needs of the country is adopted and that of the foreign institution is excluded.For example, we have created headings with the "communal" adjective because the "commune" is an important institution in France.

The case can be more complicated : Example:Ecoles libres — Free schools. The Library of Congress uses this heading to name the alternative education, the self - management in education. But for us, "Ecoles libres" has the very precise meaning of "Private schools". So, the same term refers to two different realities according to the countries.

II - 3 CREATIONS : When and how create ?

II - 3 -I

The question which precedes the creation is that of the specificity examined in the already referred ISO document.

& 6-4 "La spécificité peut être définie comme la mesure selon laquelle un concept particulier qui apparaît dans un document est exactement spécifié dans le langage d'indexation. Une perte de spécificité survient lorsqu'un concept particulier est représenté par un terme ayant une signification plus générale."

The following paragraph brings some nuances : t he case when "l'indexeur considère qu'un excès de spécificité pourrait agir d'une façon négative sur le fonctionnement du système d'indexation."

This text really shows us the two excessive positions to avoid : on one hand a multiplication of creations to give account of all the concepts ; on the other hand, a too general indexing to avoid creations.

Experience shows us that the balance between the respect towards the document and the coherence of the thesaurus, which needs grouping together the notions and not creating too much, is often difficult.

Everything depends on the acuteness of the analysis and sometimes, we are too much influenced by the habits of the former system, the absence of classification and the high percentage of original cataloguing.

Example : We have indexed a book about the criterion of simplicity in Linguistics by two existing headings :

Simplicity (Philosophy)

and Generative Grammar,

rather than create

Simplicity (Linguistics)

EX : We have indexed a book about the "Enclos Paroissiaux" by "Church Architecture - - Brittany", feeling that is was a too specific reality to create the heading "Enclos Paroissiaux", and that it was better to index

the document by an existing and more general heading.

II- 3 - 2 If we decide to create, according to the importance of the theme and the probability of other books about the same subject, - which is not always easy to evaluate - we must protect ourselves from subjectivity. The role of sources (dictionaries, manuals, encyclopedias) is essential, both for impartiality and communication.

Moreover we must make see also references to existing Headings.

II - 3 - 3 Which type of Headings have we created for common nouns ?

Nouns of languages and nations ; Headings referring to a linguistic study about a word (ex. ANY (the English word)); scientific terms for diseases for example ; technical terms ; headings in the educational and legal fields .

Ex : Conseillers d'éducation ; délégués de classe
Droit communal, administration communale, domaine communal.

A delicate problem is that of the creation of terms linked by "and" . This increases the precoordinated aspect of the list.

Ex. : Astronomie et religion
Christianisme et pauvreté
Psychanalyse et sciences humaines.

The creation is often made after a study on a semantic field, and we add scope notes.

Ex : "Art iranien " exists in Laval. Besides, we have created two headings : Art iranien ancien and Art persan, and we have added a scope note under Art iranien : (Sous cette vedette, on trouve les ouvrages sur l'art de l'Iran à travers les âges. Les ouvrages sur l'art de l'Iran jusqu'au 7° siècle sont pris à Art iranien ancien, les ouvrages sur l'art iranien islamique sont pris à " Art persan".)

Ex. : Langues étrangères. We have created this heading while the Congress and Laval use modern languages with a see reference for living language. " Modern languages " seems to us in opposition with dead languages and includes the maternal language, while we have many books about the teaching of foreign languages. Then we have made :

Langues étrangères
X Seconde langue
X Langues vivantes
XX Langues modernes

A thesaurus is a living instrument which must evolve but as much as possible in a coherent way.

III - I - The faithfulness to the source-system and the prospects of collaboration

They essentially depend on the means of communication and the time given to this work.

For example, we wish to keep relations with Laval, but as long as we are limited to letters, it is not really fruitful : the time for exchanging is too long. Moreover everyone is busy and can't take enough time for the researches concerning other libraries.

It is clear that, in the future, when an on-line data base exists on each side, we'll immediately know the heading chosen by our colleagues, and we'll beable to avoid for example the risks of a different translation from a L C S H heading.

Another obstacle to the faithfulness is the question of the changes of headings and the corrections they entail in the catalogue.

We should like to harmonise some headings with the Bibliothèque Publique d'Information . But it has several printed subject catalogues and hesitates to make changes.

Another example : the changes of constructions announced in the " Cataloguing Service Bulletin " of the Library of Congress. An important modification has been recently announced in the N° I4 - Fall 8I, about FOLKLORE :

Previously the headings were followed by the expression : " In religion, folklore, etc..", example Stars (in religion, folklore, etc..) The bulletin announces a new subdivision under subjects : folklore, which eliminates previous headings — Stars — Folklore.

For the religious aspect, the bulletin announces new subdivisions to be given in a future publication.

What must we do ?

It seems obvious that the most realistic prospect consists in giving to every library a relative freedom, in order that it can answer the needs of its users according to the context of its country ; but this freedom should not lead to too important divergences. On the contrary it can be fruitful and bring, for example, exchanges of creations.

Besides Laval and the Bibliothèque Publique d'Information, we have some plans of collaboration with Belgian Colleagues, who are very interested by a common instrument for French-speaking conntries.

III - 2 The future products

The National Library presently elaborated a plan for automation which, as for us , will allow the link between the the bibliographic file and the subject autority file. The " Bibliographie de la France "and the exchange tapes could then include the subject indexing.

An on-line data base will certainly be created too.

On the other hand, the specialized Services (Arabic, Hebrew, Slavic, etc...) will son be associated to our work, and will then enrich the list.

Our adaptation of the Répertoire Laval seems rather satisfying to most of the indexers with the possibility of creations and some changes of constructions : for example, the adding of dates.

In its title, this talk evokes the general theme of the Congress : the idea of " NETWORK ".

We really think that the adoption of the Library of Congress Subject Headings and the Répertoire de l'Université Laval by many libraries contributes to create a " network " of subjects headings. The generalization of data bases with subject indexing lets us hope to have a quicker access to information and better relations between these libraries.

In the meantime, it is to be hoped that the coherence and the compatibility of these different adaptations should be kept as much as possible.

- Catalogue alphabétique de Matières : NF Z 44 - 070 Paris, AFNOR I957

- Library of Congress - Library of Congress Subject Headings. Washington
9ème édition - I980

- Université Laval. Bibliothèque. Répertoire de Vedettes-matières
8ème édition - I976

- Bibliothèque Publique d'Information . Autorité-matière ; noms communs.
Autorité-matière ; noms propres
Centre National d'Art et de Culture Georges Pompidou - I980

- ISO TC 46/SC 5 : "Principes directeurs pour l'analyse des documents, la détermination de leur contenu et la sélection des termes d'indexation " AFNOR, texte revisé de mai I978 - mai I979

- Principes généraux pour l'indexation des documents - NF Z 47-I02 AFNOR
Paris - août I978

réseaux
48e conférence générale de l'IFLA – Montréal
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IFLA GENERAL CONFERENCE MONTREAL 1982

Division : Bibliographic control

Section : Catalogage

The International standard serial number (ISSN)

by

M. Rosenbaum
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Centre international
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meeting
12.6 S1

THE INTERNATIONAL STANDARD SERIAL NUMBER (ISSN)

The International Standard Serial Number (ISSN) was developed by the International Organization for Standardization (ISO) because there was a need for a brief, unique and unambiguous identification code for serial publications. The exchange of information about serials between the computer systems of different organizations demands the application of a standard code. Communication between organizations transcends national boundaries and therefore requires an international code which is numeric, since no single alphabet is used by the majority of producers and users of serials. An eight digit number, including a check digit is considered to be sufficient as the basis for numbering the entire population of serials, whether past, present or to be published in the forseeable future. The number appears in two groups of four digits separated by a hyphen and preceded by the acronym ISSN.

RELATIONSHIP BETWEEN AN ISSN AND A SERIAL

After careful and thorough investigation it was decided that the ISSN should not incorporate any significance other than the unique identification of a serial title. The decision was taken because of the peculiar nature of serials.

The term serial covers a variety of publications with very different characteristics but which have three things in common :

- Serials are intended to be continued indetinitely and are published in successive parts. A serial is therefore not one physical object but a sequence of physical objects containing component parts which may need additional identification (e.g. articles in periodicals, monographs in monographic series). Linking the ISSN to the physical presentation of the serial may complicate the identification of the component part.

- Serials are subject to every kind of change. They change their physical form, their frequency, their subject coverage. They split into two or more serials and merge with other. They die and are sometimes resurrected. They change publishers and migrate from country to country. It would be impractical to incorporate any of these unstable characteristics into the ISSN.

- Serials are usually known, cited, ordered, searched for by their titles. The title is therefore their most important identifying element and should be linked to the ISSN. This sounds simple and straightforward until one remembers that a serial issue may bear several titles or several forms of the same title, that several unrelated serials may have identical titles, that publishers are not averse to title changes and that some serials have no title at all.

For these reasons it was decided that the ISSN would be linked to a standardized form of title called key-title. The key-title is derived from the title information appearing in the serial issue. It is unique to a particular serial and when two serials have the same title, their key-titles are made unique by the addition of qualifying data (e.g. place of publication). The key-title should be regarded as the verbal equivalent of the ISSN to which it is inseparably linked. In cases where the serial changes its title, a new key-title is derived and a new ISSN is assigned to it.

ASSIGNMENT OF THE ISSN

The assignment of an ISSN to a serial is not a mechanical numbering procedure. In practice, many publications are borderline cases and may require a subjective decision to determine whether they should be treated as serials or monographs. In dealing with a specific serial, one may have to establish complicated genealogies, to trace relationships with other publications and to detect quite unrelated serials with identical titles. The choice of title and

the establishment of the key-title require cataloguing decisions based on firm and detailed rules. The serial then has to be followed throughout its life to verify whether the initial assignment is still valid or should be changed. All this requires bibliographic expertise and close relationship with the serials, their publishers and users.

It was therefore decided that the implementation of the ISSN required an international organization which would have access to the world serial publications, establish contact with publishers and users and ensure continuous bibliographic control of the numbered serials. The International Serials Data System met these requirements and was given sole responsibility for the implementation of the ISSN.

THE INTERNATIONAL SERIALS DATA SYSTEM (ISDS)

The ISDS is an intergovernmental organization established within the framework of the UNESCO UNISIST programme. The aim of the system is to provide a reliable registry of world serial publications covering the full range of recorded knowledge and containing essential information for the identification and bibliographic control of serials.

The ISDS functions as a network of National and Regional Centres coordinated by an International Centre. This two-tier structure combines the advantages of centralized and decentralized systems. On the one hand, each National Centre contributes its bibliographic expertise and knowledge of the serials published in its country. On the other hand, co-ordination and file building on the International level ensure common policies, uniform operational procedures, consistency and constant maintenance of ISDS standards, rules and formats.

At the present time, the ISDS includes 46 operational Centres which together cover the majority of current serials. As the network is still growing, it is hoped that it will eventually provide complete bibliographic control of current serials.

National ISDS Centres have sole responsibility for assigning ISSN and key-titles to serials published in their countries. They promote the use of the ISSN and encourage publishers to print them on serial issues. They register systematically their new serials, record title changes and assign ISSN and key-titles to older serials on request from users. Each time an ISSN is assigned, the Centres establish full records of the serials containing the ISSN, key-title, abbreviated key-title, variant forms of the title, issuing body, imprint, former and successor titles, class numbers, language and country codes. The records are established in the ISDS format in accordance with the rules and standards listed in the ISDS Guidelines.

The International Centre registers serials published in countries where no ISDS Centres exist and serials published by international organizations. It compiles and maintains the ISDS machine readable data base, ensuring that it is accurate, consistant and continuously updated. It maintains the ISDS Guidelines in close co-ordination with all Centres. The Guidelines, published in 1973, have been just as continuously updated as the ISDS data base. A revised and enlarged edition is now being finalized and will be published at the end of the year as the ISDS Manual.

The International Centre also disseminates information from the ISDS file and distributes the data base in machine readable form and on microfiche. The ISDS Register contains at present approximately 150 000 records. It is updated by the bi-monthly ISDS Bulletin which lists approximately 4000 records per issue. The indexes to these publications provide complete ISSN and key-title listings.

USE OF THE ISSN AND THE ISDS DATA BASE

The ISSN was established primarily for the international exchange of bibliographic information, but it also finds many qpplications in day-to-day procedures such as ordering, accounting, accessions, checking of subscriptions, identifying reference sources, inter-library loans, etc....

The ISSN is an efficient control number. It is required by the U.S. Postal Service for all serials which are forwarded by the U.S. mail. It helps control legal deposit and has recently become a legal requirement in France for that purpose. It may also be adopted in the near future as the European Article Number fot Serials.

The ISSN, in conjunction with the ISDS record, has found applications in many abstracting and indexing services. Some use the ISSN as control numbers for their data bases. Some have remodeled and automated their data bases using ISDS records. Others have found an efficient way to produce references for abstracts in their printed publications : The only reference cited for an article in an issue is the ISSN. The full reference is then extracted automatically from the ISDS file, at the time of printing.

Communication between organizations is facilitated by the ISSN. Information centers which co-operate by sharing the work of abstracting, exchange information by ISSN and abbreviated key-titles.

The ISSN and the ISDS file have found an obvious application in the establishment of union catalogues and common lists of serials. These very useful tools for locating serials are notoriously difficult to establish and maintain. The use of the ISSN and key-title simplify reporting and identification and the ISDS file allows to establish the union lists with less effort and at lesser cost.

The International Centre has recently produced a common list of serials published by 33 UN organizations, for the UN Interorganization Board (IOB). It currently contributes to an International list of serial in the social sciences, union catalogues in the agricultural sciences, of serials on Latin America. The data base is used for the establishment of national and regional Union catalogues in South-east Asia, in Argentina, in Mexico, in France, in the Scandinavian countries.

The basic method for building and maintaining a union catalog based on the ISDS file is to report the serials by the ISSN found on the issues or an ISDS publication, together with location and holdings data. The record itself is then extracted from the file. Where the serial is not yet registered with ISDS, the ISSN and its corresponding record are provided on request.

The present experience in developing union lists based on the ISSN and the ISDS file has shown that this method is effective and economical. This is particularly important at a time when many collections funds are being cut and more and more library groupings are in search of economic means to share their present collections and develop common acquisitions policies.

As the recent conference on Universal availability of publications (Paris, 3-7 May, 1982), the participants discussed union catalogues as a prerequisite for availability and the development of national acquisitions policies. By aiding in the establishment of union catalogues, the ISSN, which was conceived as a tool for bibliographic control of serials, may also be seen as an aid in the universal availability of those serials.

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Director IC

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IFLA GENERAL CONFERENCE MONTREAL 1982

Division: Bibliographic Control

Section: Cataloguing

Use of Flow Charting and Other Graphic Methods in the Analysis of Cataloguing Operations

by

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USE OF FLOW CHARTING AND OTHER GRAPHIC METHODS IN THE ANALYSIS OF CATALOGUING OPERATIONS

by Ann H. Schabas

Introduction

As the title makes clear, this paper is about flow charts and flow chart-like graphics applied to cataloguing procedures and decisions. Over the past several years, we at the University of Toronto's Faculty of Library Science (FLS) have used flow charts to analyze and describe cataloguing rules and activities in the classroom.

I am confident many of you are familiar, to some extent at least, with flow charts and flow charting. But many people associate flow charts only with computer programming and/or systems analysis. I hope to make a case here for their wider usefulness. I shall be using, as illustrations, charts developed at FLS.* We claim no monopoly in this area. There has been a recent book on this topic[1] and one can find charts for cataloguing and cataloguing-related routines scattered throughout the cataloguing literature. I shall acknowledge a number of them in this paper at the appropriate places.

In addition to showing the power of charting for explication, I hope, particularly, to demonstrate the art of the technique. Good flow charts don't happen easily or quickly. Usually a chart must go through a number of versions before a satisfactory one is reached. I shall start by discussing criteria, or guidelines, for effective flow charting and then go on to present some representative examples.

Flow Charts

A flow chart is a diagram made up of a small set of prescribed symbols with text. The symbols are linked by flow lines to show the sequence of procedures and decisions involved in the process being described. Figure 1a illustrates a possible flow chart for some unidentified iterative process. It uses, in all, only five symbol types: the Terminal, or START/STOP, oval; the Procedure rectangle; the INPUT/OUTPUT parallelogram; the Decision diamond; and the Connector circle. The drawing of flow charts is facilitated by a template (Figure 2) of ANSI** standard symbols.

There are a number of other symbols provided on this template, but, for our purposes, we have found that the flow chart serves as a better communicating device if the variety of symbols used is kept to the few in Figure 1.

Flow lines should always be either vertical or horizontal and as much as possible should flow from top to bottom and from left to right. In my view, they should never cross, as this creates a point of visual confusion which works against the communication effectiveness of the chart. Connectors are an alternative to long or awkward flow lines, but they should be used sparingly

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*My colleagues, Professors M.E. Cockshutt, C.D. Cook, K.H. Packer (Dean) and N.J. Williamson, and I have been a teaching team in the areas of cataloguing and classification for over ten years. We have all been involved in the evolution of the charts presented in this paper. They are the products of joint effort.

**American National Standards Institute

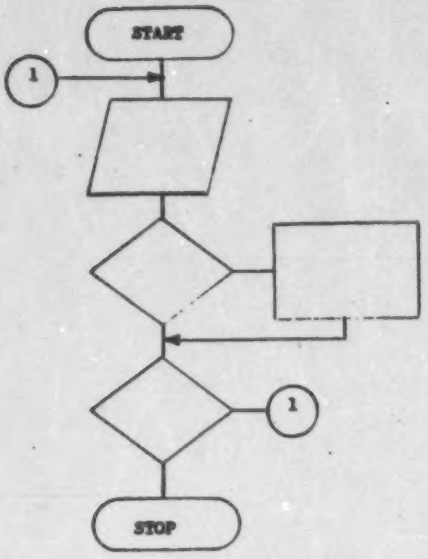

Figure 1a

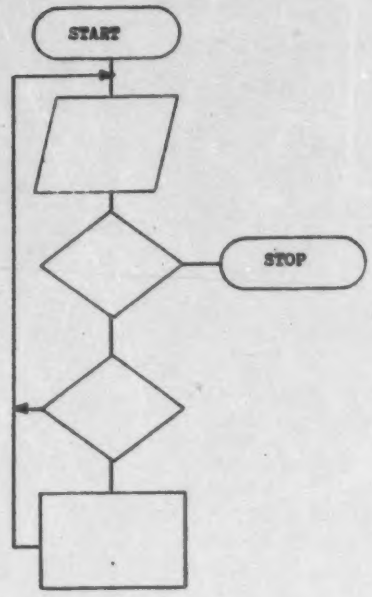

Figure 1b

TWO FLOW CHART CONFIGURATIONS

to avoid turning the flow chart into a 'hunt for the matching number' puzzle -- an irritant to the reader who wants a clear and simple portrait of a set of procedures.

There are usually several equally acceptable configurations for a given set of procedures. Figure 1b is an alternative to Figure 1a. Their sameness becomes more evident if text is added as in Figures 3a and 3b. The procedure they represent is that of going through a pile of books, and cataloguing those for which cataloguing copy is not available.

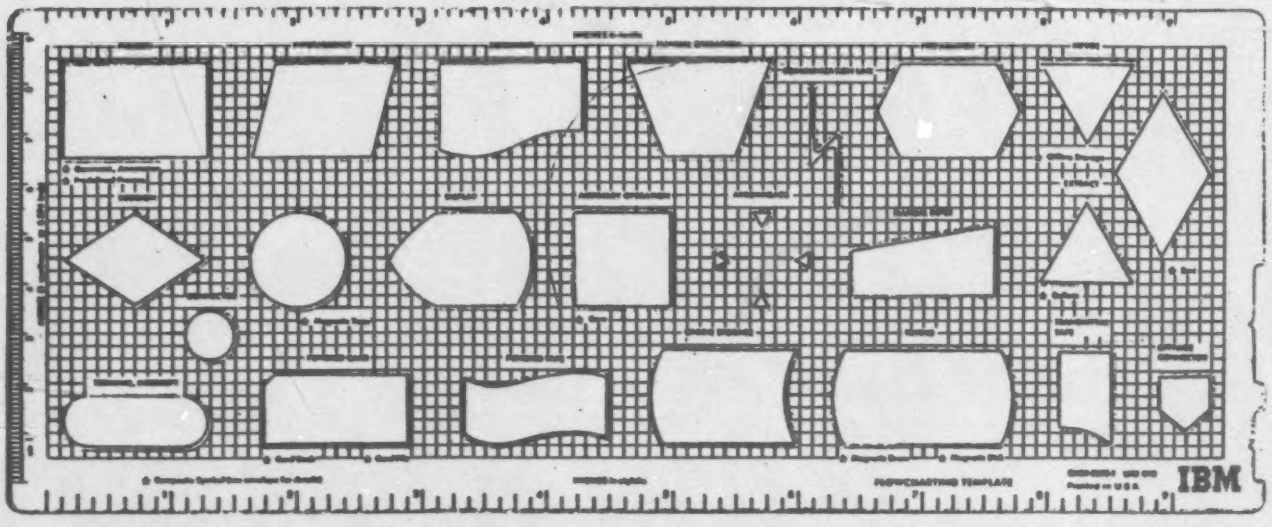

Figure 2: FLOW CHARTING TEMPLATE

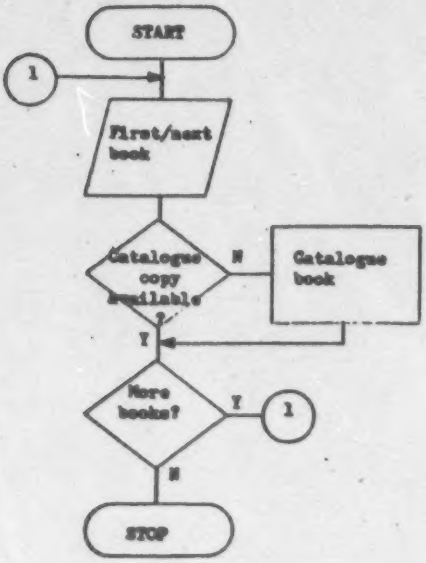

Figure 3a

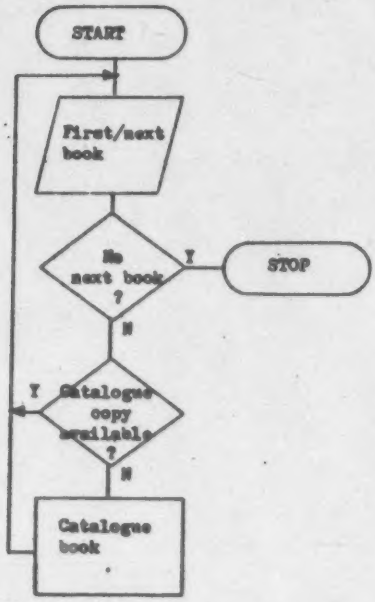

Figure 3b

TWO CONFIGURATIONS FOR CATALOGUING A PILE OF BOOKS

Although many flow chart designers disagree, I believe that clarity is improved by limiting to one the number of flow lines entering and leaving any box. The only exception is that there must be two, and only two, exits from a Decision Symbol, representing YES and NO answers to the question within it. One of the two branches from a Decision Symbol will have to reenter the chart at a flow line, at which point an arrow should be used. The temptation to use arrows more profusely should be resisted. Except for this one situation, they are unnecessary and reduce clarity by adding clutter.

Flow charts can be drawn to show an overview or to emphasize detail. The levels chosen should fit the objectives of the chart. Both detail and overview can be achieved in the same schema by using subroutines, as a later example will illustrate. And a single flow chart can have a mix of levels, with some parts having only macro-representation -- a single symbol for a set of procedures not requiring emphasis -- and other parts being fully expanded to micro-representation showing every little step and decision.

Wording within symbols must be very carefully worked out. It should be concise, clear and unambiguous. This may well be the hardest part of flow chart design. And often the template symbols are not large enough to hold the necessary text. Some flow charts have symbol size to suit the text[1]; some dispense with symbols altogether[2]; others use explanation symbols[3]. I prefer to tailor the text and allow some overflow.

And finally, the whole flow chart must hold together as a unit with only one START, with no dangling flow lines, and with no loops without exits (infinite loops). And it goes without saying that it must be a true and complete representation of what is being described.

The art of flow charting, to which I referred earlier, is the way in which the symbols, flow lines and text are assembled, the position of the symbols on the page, the choice of YES and NO branches, the judicious use of connectors, concise and careful wording. Simplicity, clarity, ease of use and symmetry are all watchwords for enhancing the flow chart's chief function: communication.

This brief overview of flow charting reveals my own preferences and prejudices which will be further demonstrated in the examples to follow. The list of references at the end of this paper include a number of other explications of flow charting which show a variety of other criteria and practices.[1,3-9]

For the remainder of this paper, I have selected representative charts used in the teaching of cataloguing at FLS.

The Cataloguing Process

Figures 4a and 4b describe a computer-based simulation of on-line cataloguing called SIMCOE II. We use it to introduce students to the on-line cataloguing experience, and we use these charts to introduce students to SIMCOE II.

The system, in simple overview, is shown by the schema in Figure 4a.

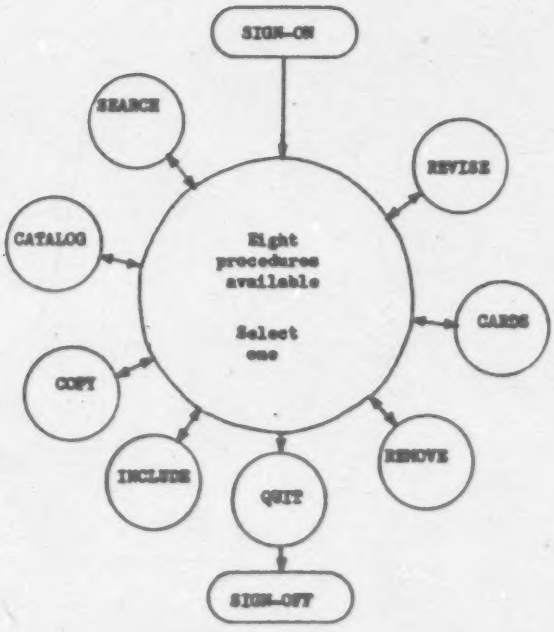

Figure 4a

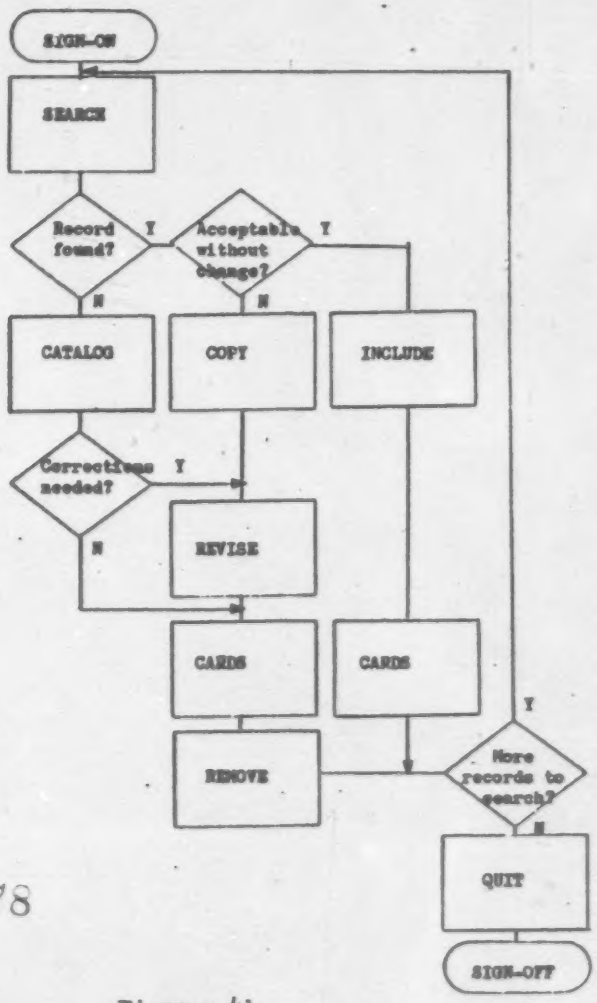

Figure 4b

SIMCOE II

The software has been written in eight sections or modules corresponding to the eight activities of on-line cataloguing provided for. The student can choose the sections he wants in any order appropriate to the item being catalogued. The purpose of this chart is to give the student a simple visual representation of the machine-based system in what may be his first man/machine experience.

Unlike Figure 4a, Figure 4b is a true flow chart showing a variety of appropriate routes through the simulation. Each Procedure Symbol represents one of the eight sections from the previous chart, but here they are set into a chart with Decision Symbols and flow lines. Of course, each of these eight Procedure Symbols is, itself, a macro-representation of a complex set of detailed procedures and decisions separately amenable to detailed flow charting.

Dewey Decimal Classification

Another computer-based teaching aid that we have developed analyzes students' answers to classification assignments. In this application the computer can check each digit in turn and verify if the answer is correct. If the answer is incorrect, the computer can detect the point at which the number goes wrong and can communicate the nature of the error without revealing the right answer. All that is needed are helpful responses to wrong numbers. In this application, the flow chart's role is to assist the instructor in preparing appropriate responses to all possible answers, right and wrong.

Take for example, the classification of a Russian-English dictionary (Figure 5).

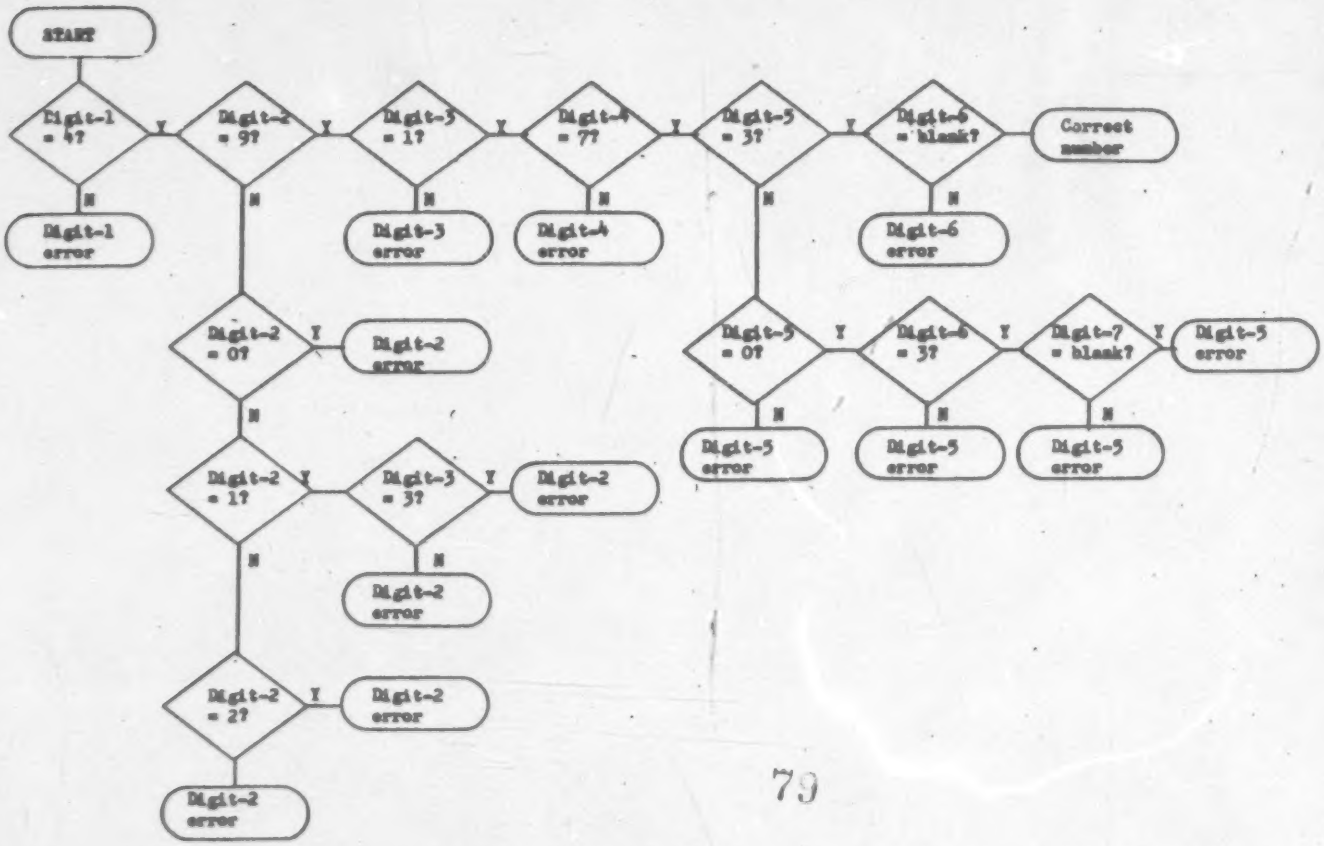

Figure 5: CLASSIFYING A RUSSIAN-ENGLISH DICTIONARY

The flow chart represents the analysis of answers, digit by digit. In this case, the configuration, governed by the YES/NO choices, is very important. The chart has been carefully planned so that each successive column focusses on the next successive digit. Each Terminal Symbol represents a message customized to the set of digits by which it will be reached.

The correct answer, 491.73, leads horizontally across the first row, with YES answers, digit by digit, to a 'correct answer' message. All other messages send the student off with an appropriate clue to try again.

Authority Control

The flow chart approach has proved useful in teaching the mechanics of authority file update. We use one for subject and another for names.

The subject authority file flow chart (Figure 6) is intended to stress the

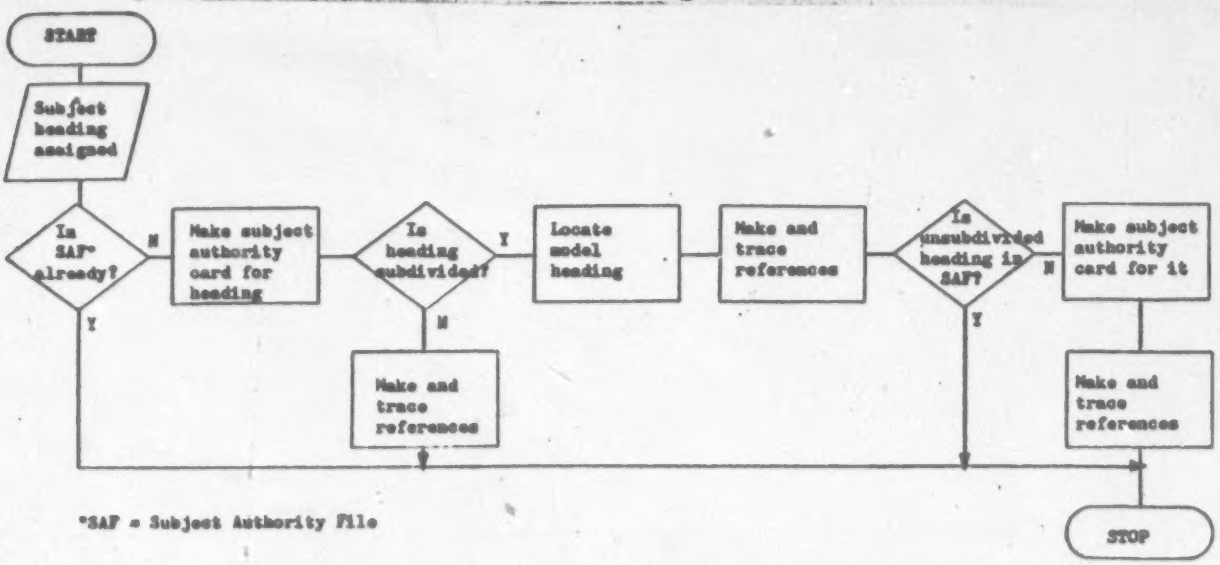

Figure 6: SUBJECT AUTHORITY CONTROL

importance of establishing references to new headings. It assumes a subject heading system like the one used by the Library of Congress. For headings which include subdivision, it makes the points that references are often based on a model and that references to the unsubdivided heading should also be made. Soergel[10] and Austin[11] also use flow charts to describe their respective special concerns regarding subject authority control.

Name authority control procedures on the other hand (Figure 7) first place

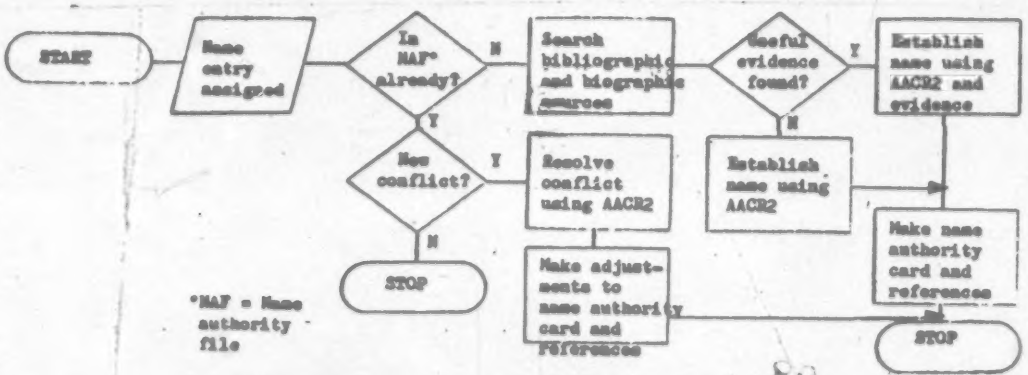

Figure 7: NAME AUTHORITY CONTROL

emphasis on bibliographic searching for precedences and conflicts and then rely on cataloguing rules (AACR2*) to make final decisions. As with the SIMCOE II flow chart, this one acts as a window to additional flow charts which expand on parts of it. The 'Establish name using AACR2' procedure as it applies to personal names has been included later in this paper.

Cataloguing Rules

Our use of flow charts to describe cataloguing rules goes back a number of years. We sharpened our skills on AACR1**and published a paper on the flow chart for determining the date component of the imprint field[12]. For this paper I have selected four of the ones we currently use, two general schemas and two flow charts.

The first of the four is a schema showing the structure of the whole book, chapter by chapter (Figure 8).

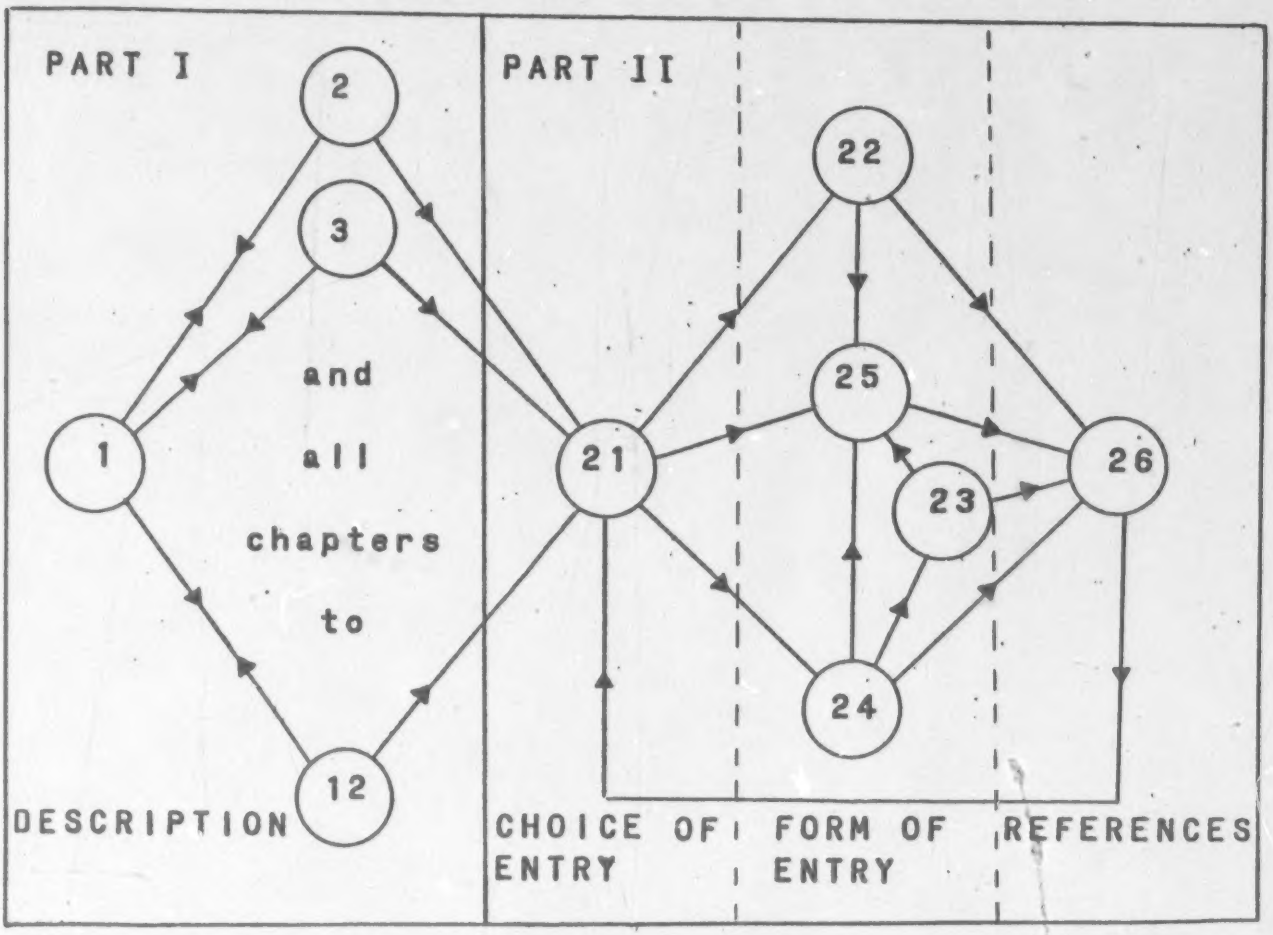

Figure 8: AACR2 CHAPTER STRUCTURE

The chart shows that the book is divided into two parts which are used serially. In Part I, Chapter 1 contains the general medium-independent rules. Chapters 2 to 12 are each devoted to one particular medium. They are used independently of one another and each, iteratively, in conjunction with Chapter 1.

*Second edition of the Anglo-American Cataloguing Rules
**First edition of the Anglo-American Cataloguing Rules

Then on to Part II. Chapter 21 establishes choice of entries for all items, regardless of medium. Chapters 22, 24 and 25 establish forms of entry for persons, corporate bodies and titles, respectively, supplemented by Chapter 23 in some instances. Finally, Chapter 26 establishes references. Familiarity with this overall structure at the outset sets the roles of the separate parts in context and greatly facilitates understanding.

At a somewhat greater level of detail, Figure 9 flow charts the principal functions of Chapter 22. This is a relatively straightforward chapter which resolves, in turn, the problems identified by the captions in the Decision Symbols. This whole flowchart is an expansion of the single Procedure Symbol of Figure 7 already referred to.

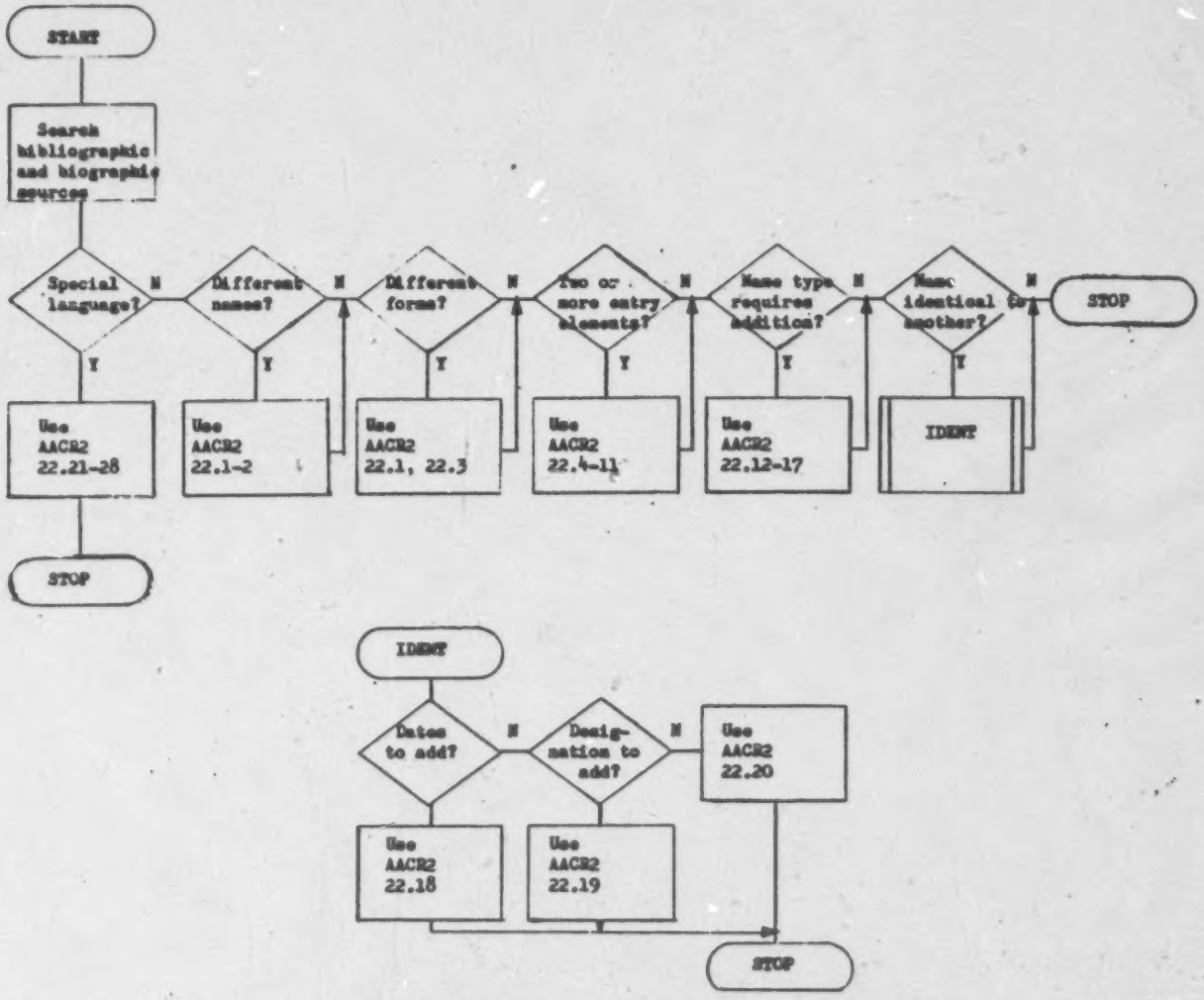

Figure 9: ESTABLISHING PERSONAL NAMES USING AACR2 CHAPTER 22

I have incorporated a subroutine into this flow chart to demonstrate this feature of flow charting. The Subroutine Symbol is the same as the Procedure Symbol but with double ends. The subroutine is identified by name within the symbol and that name is contained in the START Symbol of the subroutine. Other subroutines with different names could have been included for the other procedures in the flow chart.

The remaining two charts for AACR2 both apply to Chapter 21. This is the most challenging chapter to flow chart. We are currently preparing a paper on the flow charting of it[13].

Figure 10 is a schema showing the hierarchical relationships between the various rules for mixed responsibility, Rules 21.8 - 21.27, relationships which are not obvious from the text or the layout. Rule 8 is the general rule for this set. It identifies the two kinds of mixed responsibility, modification and collaboration, in its subsections, 21.8Aa and 21.8Ab, respectively. The 'modification' rules, 21.10 - 21.23, have a general rule, 21.9; the 'collaboration' rules, 21.24 - 21.27, do not. A firm grasp of this 'structure' helps in the interpretation of this group of rules.

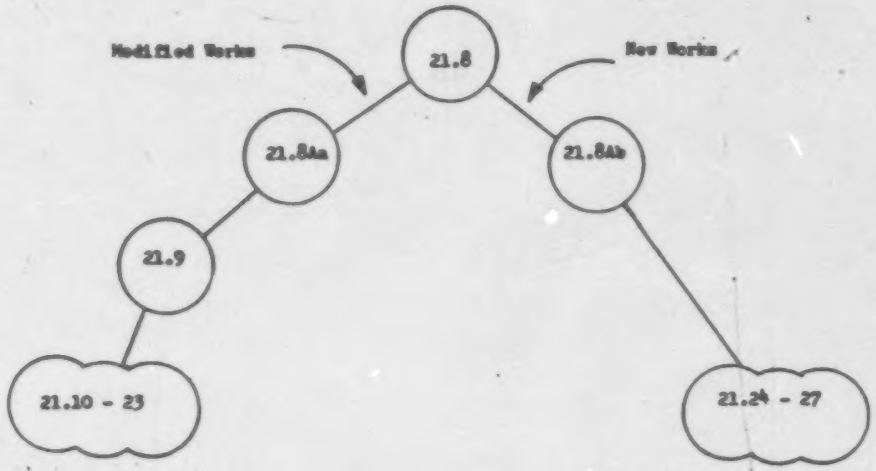

Figure 10: RULES OF MIXED RESPONSIBILITY

Figure 11, my last AACR2 example, is a flow chart which brings together a number of rules scattered throughout Chapter 21. They are the rules which deal with art and illustration.

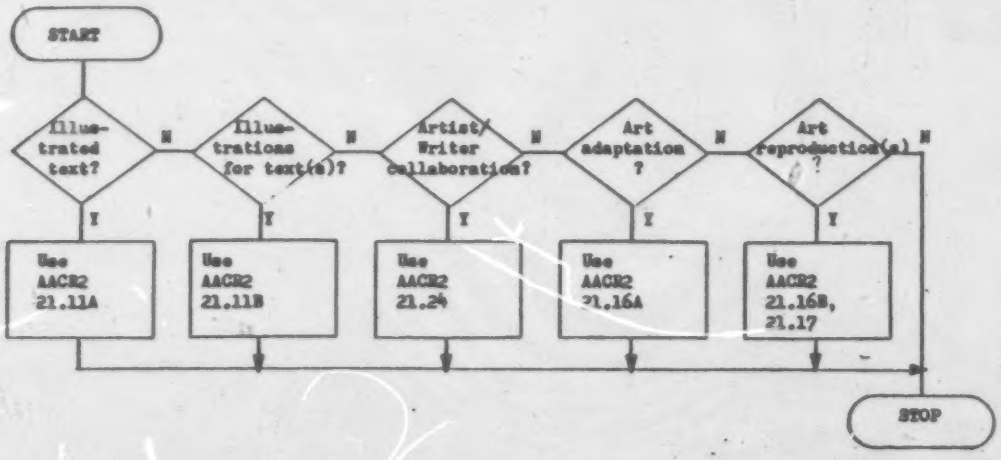

Figure 11: RULES FOR ITEMS INVOLVING ART OR ILLUSTRATION

Conclusion

These examples have been chosen to demonstrate the usefulness and power of using charts, particularly flow charts, to explain cataloguing procedures. Once one gains facility in the techniques it is surprising how one's understanding of a set of procedures can be helped by flow charting. As a parting example, and to show that virtually anything can be flow charted, I have prepared a flow chart (Figure 12) on how to scan this paper.

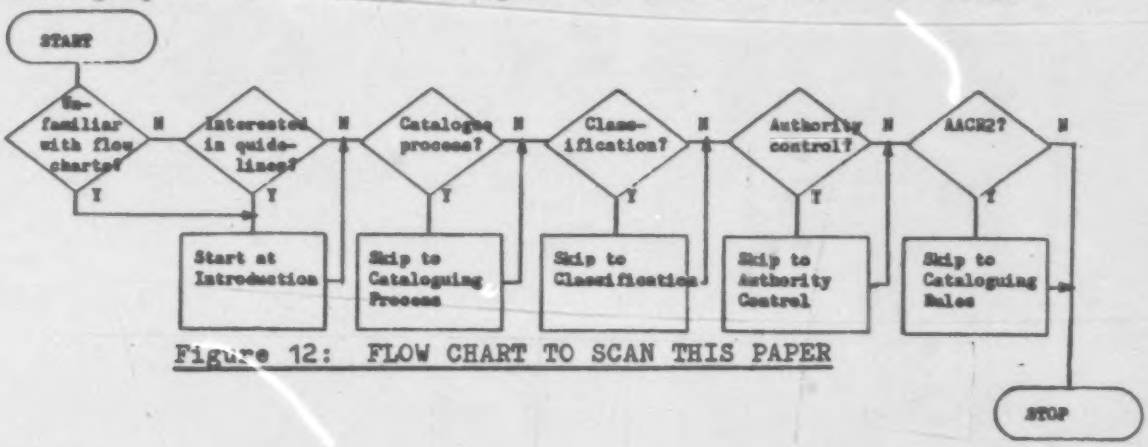

Figure 12: FLOW CHART TO SCAN THIS PAPER

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PROJECT : LIST OF SUBJECT HEADINGS FOR LIBRARIES (LEMB)

PROBLEMS OF TRANSLATION AND ADAPTATION

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INTRODUCCION

This paper has a double purpose. In a first instance it was prepared in response to a kind invitation of Madame Jouguelet to participate in this session presenting the project entitled List of Subject Headings for Libraries (LEMB) and focusing attention on problems faced in the translation and adaptation of the L. C. Subject Headings .

A second purpose is to systematize these types of problems and using them as a base to construct some general policies and guidelines for those who in the future undertake a similar work or give continuity to the present one.

This work is not absolutely original, as our experience is not unique. Taking into account that the LEMB project is the continuation of work started by the OAS in 1950, we had to review the experiences of the compilers of the first edition of the list. Frecuent consultations were then made to Carmen Rovira's work :"Los epígrafes en el Catálogo Diccionario"(The Headings in the Dictionary Catalog), and "Encabezamientos de materia en Español : pautas y principios" (Subject

Headings in Spanish, guidelines and principles). For me, it is specially rewarding to recount such experiences in this important meeting.

I want to reiterate my thanks to Madame Jouguelet for her invitation, as well as to Mr. Wesemael, Coordinator of Professional Activities in IFLA, and to my Colombian colleague, Lucy Martínez de Jiménez, Secretary of the IFLA Commission in Latin America, who have made possible my participation in this conference.

1. BACKGROUND

The project "List of Subject Headings for Libraries"(LEMB) is the continuation of a project initiated in the Colon Library of the Panamerican Union in 1950, In 1961 this began to take shape and since 1964 has enjoyed its own financing that has made possible to undertake, at a Latin American level, the compilation of a List of Subject Headings for Libraries.

Thanks to the vision and drive displayed by Marietta Daniels and a groupe of outstanding librarians, several Latin American libraries offered their support in order to compile a list, that would be suitable for the needs of the libraries in the region and that would respond to their cultural and linguistic characteristics.

In 1967 and under the coordination of Carmen Rovira and Jorge Aguayo, the program produced the Lista de Encabezamientos de Materia para Bibliotecas, published by the Panamerican Union. Thanks to this list and to the establishment of some basic principles, it was possible to give consistency to the practice of constructing headings in Latin America. Up to then, although there were some isolated lists, no one of them had become the model which would allow standardization for the subject authorities in the region.

Unfortunely, this effort was not systematized in the most desirable form. The compiling of a list never can be considered a finished task if one assumes that one should periodically add the advancements of the scientific and technical terminology, which are in constant evolution.

This first edition has two supplements, prepared by Emma Linares and published in 1969 and 1970.

As I stated before, the initial work was based on the contributions of some Latin American libraries (five university, two national and eight specialized libraries). As a source for the basic standardization, the U.S. Library of Congress Subject Headings List was adopted.

In practice this was a task of translating and adapting terms included in L.C., but responding to the needs of the libraries that contributed

their own terminology based on their bibliographic files.

Without a doubt the list was a valuable contribution to the Latin American Libraries, However, as we pointed out earlier in this paper, a list of this kind is never finished and shortly was felt the need to fill the gap found by our libraries in the analysis of the information they continously received.

In the light of this situation and taking into consideration the requirements of the Colombian System of Higher Education Libraries, being organized at that time (1976) and coordinated by the Colombian Institute for the Promotion of Higher Education (ICFES), the decision was made to undertake a national project for the updating of the OAS list. The project was presented to the OAS in order to obtain its technical and financial assistance, which has been granted since 1977.

2. OBJECTIVES OF THE PROJECT

- Provide the libraries of the Spanish speaking countries with a List of Subject Headings in order to facilitate the process of assigning headings to achieve uniformity in the subject catalogs, to facilitate the transfer of information and to better the quality of library services.

- Obtain lists of subject headings by areas and special fields.

- Design a mechanism that will insure the periodic updating at the Latin American level as well as national.

- Create an automatized Spanish-English system of authorities for Latin America, including subject headings and names, and to be applied in the automatized and manual systems of the libraries of the region.

3. JUSTIFICATION

The justification of this project rests on the following considerations:

- In Latin America there is no list of updated Subject Headings that allows the standardization of the terminology to be used in the dictionary or subject catalogs of the national, university and other libraries.

- In a survey conducted in the main Latin American libraries, it was found that most of them were willing to cooperate in the updating of the OAS list, observing that the work was very useful and neccesary.

- Even though two supplements has been produced, the OAS list is already out of date and no updating mechanism has been designed.

- It is necessary to construct a bibliographic authorities system at a Latin American level.

4. SCOPE OF THE SYSTEM

The LEMB project has been conceived as a subsystem within a General Bibliographic Authorities System which also will include personal names, corporative names, names of series, uniform titles and geographic names.

As for the subject headings, the system will provide the production of general and specialized lists, regular supplements and Englis-Spanish lists.

At the authorities level, the project aims to :

- Create a system, with Latin American scope that can be applied by the libraries of these countries in automated as well as in manual programs.

- Provide for the National Program of Cooperative Cataloguing that is being implemented in Colombia, with an Authority Data Bank that will be the support and guide line with respect to main entries and subject headings.

- Develop an automated program of Spanish names and subject headings, which based on the MARC format and including their English equivalents, allows the systematic use of the MARC tapes.

- Develop an authorities MARCAL format and to promote its adoption in Latin America.

5. METHODOLOGY

The LEMB project is based on cooperative work thanks to the participation of almost two hundred Latin American libraries, including the main libraries of the Colombian System of Higher Education and also some special libraries (around one hundred-and-fifty Colombian libraries).

For the standardization of the subject headings sent by these libraries, our main source has been the 8th edition of the L. C. Subject Headings, its supplements up to 1978, and some specialized lists.

Our list is being produced through translation and adaptation work (problems to which I will refer in more detail in the next chapter, since they form the basic topic of discussion in this session).

By no means is it "a priori" work. All the terminology that has been standardized has been contributed by the cooperating libraries based on their conceptual or thematic content. The fundamental aspects of the applied methodology were suggested by an International Advisory Committee, appointed for that purpose. In this Committee which met

on two ocassions (1977 and 1978) took part Carmen Rovira (co-author with Jorge Aguayo of the first edition of the list); Gloria Escamilla, also author of a list published in Mexico and based on the subject headings used in the National Library of Mexico; Nelly Kooper a librarian with a wide experience from Costa Rica, and Libia Lotero, professor at the Interamerican Library School of Medellín, Colombia, Blanca Castañón, gave us her assistance during a year and as a consecuence complements to some of the methodologycal aspects were obtained.

The steps to be followed in the project are :

a. In a first step, the contributions of the cooperating libraries are confronted with the OAS list and its supplements in order to verify if they really are new or if they suggest the most updated way to express a concept or an aspect already included or if they just indicate a more adequate structure.

b. Once the subject heading is confirmed as a really new contribution, a check in L.C. is made in order to identify the way it is trated there. Its English version is taken and its structure in Spanish is given following our rules.

c. "See also" references in L.C. are also analized and those justified from a cultural or linguistic point of view, are translated and adapted. Consideration is also given to those headings which although expressing valid and significant headings should not be including as references. This is so because of their structure where, due to their alphabetical nearness in the list, the headings are such that they are not necessary. In this case, such terms are included as authorities and no reference to the English main term is made.

d. First references (x) i.e., synonyms are also analized. Most of them are not valid in Spanish. On the contrary, a great majority of them has to be constructed based on knowledge of the synonyms in the Spanish language and foreseeing the possible way in which they can be requested by our users.

e. Second references (xx) are revised and those alredady treated, translated and adapted are introduced into the list. For this stage of the project reference is made to Vol. Three of the OAS list and to the English-Spanish file constructed during the development of the LEMB Project.

f. With regard to the L.C. Scope Notes or the Notes about utilization of headings, in the occasions it is justified they are translated and adapted.

g. Once the main heading and its corresponding related terms are determined, it is introduced into the Master File. Then the system provides the required connecting references.

From this point on, following steps belong to the systems field.

- The subject headings is coded in a specially designed format, compatible with MARC.
- Information is recorded on "diskettes" and goes to the IBM computer file. Files are V SAM type and gave three ways of organizing the data, oriented to satisfy the storage needs of each application in particular.

Creation of the Data Base will be done in two stages :

. Creation of the Basic Data Base (at the moment, this stage is being developed based on the information from the OAS list)

. Establishment of access and updating mechanisms.

The system was developed in a modular form and has the following subsystems:

- Creation of the Data Base
- Production of listings and files
- Updating
- On-line access
- Programming.

Basically the System will have the following outputs:

- Authorities lists (subject headings, personal names, corporative names, titles, series, etc.), with their corresponding notes and references alphabetically arranged;
- Subject list by specialized areas, based on the Dewey Classification;
- English-Spanish lists;
- Common subdivisions into general subjects, geographic and language lists;
- Supplementary and updating lists;
- Production of files in the MARC format;
- Production of files for KWIC indexes.

6. PROBLEMS OF TRANSLATION AND ADAPTATION

These problems were expressed by Carmen Rovira in her work "Los epígrafes en el Catálogo Diccionario", pointing out the difficulties of translating an entire subject heading list from one language to another. Quoting Denise Montel, French librarian who attempted to adopt the Library of Congress subject headings to the Current French Bibliography "Biblio", she concludes that an a priori, abstract and literal translation of the American list to French would have been completely useless

and she believes that the same will happen with other languages.

"This conclusion which she obtains after seven years of working in the adaptation of such headings is based on the great differences existing among the two languages; on one hand the plainly verbal and on the other hand, the ones resulting from the different way of life and institutions in the two countries" 1/.

In this line of thought it is neccesary to insist that although based on L.C., a great deal of attention was paid to the fundamental differences among Spanish and English.

On one hand, we have the aspects concerning the vocabulary and syntax as much as the relative position of the various elements of the sentence, as for the facility existing in English for making up nouns out of verbs and adjectives out of names. English permits the construction of concise sentences, whose equivalent in Spanish is obtained only after many twists and turns.

On the other hand, we must take into account the differences in history, heritage and customs among the American people and our countries. This fact made unnecessary and some times incomprehensible for us

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1/ ROVIRA, Carmen. Los epígrafes en el Catálogo Diccionario, 2a. ed. Washington, Union Panamericana, 1966 p.87

many of the headings of the L.C. List. For example, many of the headings for Religion and Law are not adquately represented in the list. The same applies to history where it is neccesary to consult Latin American specialists in the area in order to update and expand the subdivision for the history in their countries.

In taking advantage of the experience of Denise Montel and Carmen Rovira, we say along with the latter "making use of the U.S. experience, yes, whenever it is in agreement with our needs and characteristics; but using it blindly, copying the lists, no, because an account of the fundamental and cultures should be taken. Besides, even the L.C. lists are not free of mistakes and inconsistencies" 1/.

With this postulate we focused our translation and adaptation work, facing a series of problems but hoping above all to agree with the basic principles given by Cutter more than a hundred years ago: specific, idiomatic and unique.

In this sense, in the selection of terms we consciously tried to avoid vagueness or generality.

We also tried to maintain, as much as possible, the purity of the Spanish

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1/ Ibidem.

language. In this step we relied on the "Diccionario de la Real Academia". However, considering that our Language Academy is quite conservative and that it takes a very long time before it accepts neologisms, for the new technologies and new terminology we always consult specialized dictionaries, encyclopedies and specialists.

To keep the principle of unique headings, we have been very careful in giving only one form to each concept, insuring that every concept responds to only one label. To this end the corresponding relationship among synonyms, quasi-synonyms and related terms were established. Within this framework, we undertook the translation and adaptation of the contributions received and the problems encountered can be systematized under the following aspects.

6.1 PROBLEMS RELATED TO THE FORM OF THE SUBJECT HEADINGS

6.1.1 Single Nouns

When translating what in L.C. is a single noun form as a heading, (apparently an easy case) the following problems are encountered

- Use of the number (singular and plural) since L.C. is not consistent about it;

- ING ending in English, which transform a verb into a noun expressing a process or action. This form does not exist in Spanish, so the heading had to be converted into the sustantive resulting from the action or process. For example :

INTERVIEWING	ENTREVISTAS
SMOKING	HABITO DE FUMAR

- Single sustantive with article. In the case of the definite article "the" it was omitted when it did not imply a loss of precision. For example in the case of :

STATE, The	ESTADO

The article was kept in the cases where the heading was an adjective converted into a substantive and expressing a necessary abstract quality. For example :

TRAGIC, The	TRAGICO, LO

6.1.2 Single noun with explanation in parentheses

This is the case of the homonymous that require the use of qualifiers for diferentiating their meanings.

- L.C. uses these qualifiers in order to distinguish a word used in different meanings, or to distinguish in what sense the noun is used, even in the cases the list does not include another sense.

From the semantics point of view, the number of homonymous in Spanish does not correspond to that of English. The coincident number is very small. For example :

GRACE (AESTHETICS)	GRACIA (ESTETICA)
GRACE (THEOLOGY)	GRACIA (TEOLOGIA)
SHELLS (ENGINEERING)	CONCHAS (INGENIERIA)

In other cases, the term in English was the same, but in Spanish it is completely different. For example :

CAPITALS (ARCHITECTURE)	CAPITELES
CAPITALS (CITIES)	CIUDADES CAPITALES

On the other hand, the explanations in parentheses are necessary for the homonymous in Spanish, even though the English terms are completely different. For instance :

CANDLES	VELAS (ALUMBRADO)
SAILS	VELAS (BARCOS)

In some ocasions, English phrase headings were translated as a single noun with an explanation in parentheses. For example :

THYMUS GLAND	TIMO (GLANDULA)

- L.C. qualifiers indicating areas of knowledge were also used and kept. In Law, for example :

ABANDONMENT (MARITIME LAW) ABANDONO (DERECHO MARITIMO)

Some terms, however, especially in this law field, were better expressed in Spanish using a term of phrase that do not require the adittion of a qualifier. For example :

SELF DEFENSE (LAW) LEGITIMA DEFENSA

AGE (LAW) EDAD LEGAL

In many cases, the Spanish grammar and the custom, allow the use of an adjective instead of an explanation in parentheses, i.e.:

CAMPS (MILITARY) CAMPAMENTOS MILITARES.

6.1.3 Compound Headings

A compound heading in English consists of two or more nouns, two or more adjectives (sometimes) and a noun generally preceded by an adjective.

In Spanish the usual and most correct form =from a syntaxis point of view= is a noun followed by an adjective.

- Adjectival Headings. English adjectival headings are those consisting of an adjective or a adjectival noun followed by a modified noun. However, not all the English adjectival headings can be translated to Spanish in the same form. There are at least four different ways to translate them, like the following :

. A noun followed by an adjective :

ARTIFICIAL RESPIRATION	RESPIRACION ARTIFICIAL
LUNAR CRATERS	CRATERES LUNARES

. A noun followed by a preposition and another noun :

STRINGED INSTRUMENTS	INSTRUMENTOS DE CUERDA
NOISE CONTROL	CONTROL DEL RUIDO

These cases are given because in Spanish there is not one equivalent adjective or because their use is not at all common.

. Name with a subdivision :

These headings were constructed when the first word in the English heading clearly indicated the subject and the second word was taken as a general or common subject subdivision, that is to say, they has been standardized under different headings ; for example :

AERONAUTICAL INSTRUMENTS	AERONAUTICA - APARATOS E INSTRUMENTOS
AUTOMATIC CHECKOUT EQUIPMENT	VERIFICACION AUTOMATICA - EQUIPO

It is worthy to note that the Spanish subdivision not always coincides with the English version. This form was also adopted for the translation of those headings with possessive form. Example :

STOCKHOLDERS' MEETING	ACCIONISTAS - ASAMBLEAS

. Single Noun :

It is not a common case, because definitely the English in general is more concise than Spanish.

However, ther are some cases in which the English compound heading is translated to Spanish in the form of a single noun. Such is the case of Indians and Languages.

L. C. use the word Indians after the name of the people, excluding those cases of AZTECAS and INCAS. In Spanish only the name of the people or tribe was translated, considering that this is clear enough, since the use of the word INDIANS at the beginning of the heading or its placement as a qualifier in parentheses would be unnecessary. The same is applicable to languages and people.

In English it is necessary to differentiate the ethnic adjectives from the name of the language. That is the reason for adding the word Language, In Spanish it is clear enough to use the singular for the name of the language and the plural for the corresponding people. For instance :

FRANCES Y FRANCESES

In other cases, the Spanish equivalent was definitely a noun For example:

AIRCRAFT CARRIERS	PORTA-AVIONES
OLD AGE	VEJEZ

- Inverted adjectival headings

This case was quite easy to translated because the English inverted form : noun-comma-adjective, coincides exactly with the most usual form in Spanish : noun plus adjective. Such is the case of :

SURGERY, PLASTIC — CIRUGIA PLASTICA

CRISTALLOGRAPHY, MATHEMATICAL — CRISTALOGRAFIA MATEMATICA

In other instances, it was necessary to translate under the form: name +preposition +noun, like :

BRIDGES, CONCRETE — PUENTES DE HORMIGON

COSTS, INDUSTRIAL — COSTOS DE PRODUCCION

This is done mainly because there is not equivalent adjective in Spanish.

- Phrase Headings

Such a heading, are used where adjectival headings are not adequate. Their function is to limit or make more specific a heading or to express a relationship between two concepts. Generally they were translated keeping the same structure. For example :

FISH AS FOOD — PESCADO COMO ALIMENTO

AUTOMOBILE DRIVING ON HIGHWAYS — CONDUCCION DE AUTOMOVILES EN AUTOPISTAS

In some cases it was necessary to add the definite article before the second

noun. Otherwise, it would sound strange in the Spanish language, for instance :

RAILROADS IN ART FERROCARRILES EN EL ARTE

- Inverted phrase headings

In translating the headings the inversion was avoided, and the technique followed was to use headings with subdivisions and preferibly in the direct form; e.g. :

First Case :

DANGEROUS GOODS, TRANSPORTATION MERCANCIAS PELIGROSAS-TRANSPORTE

Second Case :

SKY, COLOR OF COLOR DEL CIELO

- True compound headings

Although all the above mentioned headings are compounds in the sense of having more than one work, for the purposes of this paper we would use this denomination in the same sense that is used by Haykin. That is for those headings made up of two or more elements linked or coordinated by the conjuction "and" which were treated as follows:

a. When they express a relationship between two concepts or kind of things. The English form is kept, e.g.:

COMUNISM AND SOCIETY COMUNISMO Y SOCIEDAD

b. When they describe items on two subjects or topics -sometimes opposite-, but treated together in order to express their scope, the English form was also kept. For example :

QUESTIONS AND ANSWERS PREGUNTAS Y RESPUESTAS

Occasionally, some exceptions were made such as the inversion of the order of the terms. This was done because after considering the use, it appeared more appropiate to start with the second word. It also avoids cacophony. In other cases, they were translated as simple nouns, reasons for doing this were :

a. There is only one work in Spanish:

CLOCKS AND WATCHES RELOJES

b. The opposites or related terms can be expressed by just one word:

HUSBAND AND WIFE CONYUGES

c. The repetition of the same concept as thing and process was avoided. Instead this is done by using only one of the English words :

FILTERS AND FILTRATION FILTRACION

d. The English heading was made up of a noun and the verbal form of the same noun plus the adding -ING, which is almost impossible to translate, e.g.

CANOES AND CANOEING CANOAS

e. The second noun explains the first one. In this case both headings were translated as single headings. For example :

SIGNS AND SYMBOLS SIMBOLOS

- Compound forms

This forms, so called by Haykin, when he refers to those headings including adjectives or phrases with prepositions, to modify the noun in a phrase heading , display a wide variety of combinations. They are quite common in English and according to Carmen Rovira 1/ "it is impossible to make a systematic study of them". Whenever possible their use in Spanish was avoided.

For instance :

COAL MINES AND MINING MINAS DE CARBON

6.1.4 Main Headings with Subdivisions

From a theroretical point of view, the subdivisions of subjects in dictionary catalogs or alphabetical lists of subjects should be omitted in order that they avoid features associated with alphabetically classified catalogs.

1/ ROVIRA, Carmen. Encabezamientos de materia en Español : pautas y principios. Bogota, ICFES, 1976 p. 55

However, neither Cutter nor Haykin nor other contemporary theoretician have been able to deny the need for subdivisions of some subjects, especially those that are fairly wide and posseing a vast literature.

All subject heading lists include a great number of subdivisions, as mucho as those common to a great number of subjects as well as those refering to only one or a few subjects.

According to Haykin, "Subdivisions should be limited as much as possible to the format in which the topic is presented and to the place and time to which it is confined" 1/.

Taking into account that L.C. is not very consistent in the application of this principle, the Spanish version of the list analyzed every case.

As far as form, Geographic and Period Subdivisions are concerned, almost the totality of the ones included in L.C. were kept. In respect to the General Subject Subdivisions, some were expanded and some modified or suppressed, in response to the characteristics of the Spanish language.

As for facilitating the usage of the list and avoiding the excesive expansion in the use of form, general subject, under countries and languages subdivisions, the first compilers of the List included three appendices indicating what type of subdivisions should be used in each particular

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1/ HAYKIN, David Judson. Subject Headings : a practical guide. Washington, GPO, 1961 p.27

case.

In our next edition this feature will be mantained. Separated lists will be included according to the type of subdivisions. However, List Three called "Common Subdivisions" where form and general subdivisions are included, was fully revised. In this case, some terms were cancelled, after considering that they should be entered in a direct form, e.g. Abastecimiento, Contaminación, Administración, ..., etc.

6.1.5 Use of Inverted Headings

These headings have been almost completely omitted in Spanish. The first reason for this decision is because this form is not too common in Spanish. For a second reason, the principle of specificness of one term of the compound headings different from the first one (justification by Cutter, Rovira, Coates and Metcalfe) is quite debatable and we prefer the use of the natural language; for instance :

COMPLEJO DE EDIPO
TEORIA DE GRUPOS
FUNCIONES DE BESSEL

In this sense, we made the corresponding changes to the first edition of the OAS List.

6.2 PROBLEMS RELATED TO CONTENTS

In the previous chapter, we analized the treatment given to some translation and adaptation problems as far as the forms of the headings are concerned.

Now, we will analyze the problems concerning contents, i.e. the treatment of the conceptual or subject aspects of the list, not forgetting that it is a general list.

To solve the problem of contents, other kinds of strategies were followed, according to the type of problems .

The problems can be summarized as follows :

- Representation of some topics not included in L.C. for being very local, or pertaining to specific cultural or linguistic matters. This is the case or Religion, History and Law.

- Representation of new concepts not yet included in L.C. or belonging particularly to the socio-economic development of our countries.

- Balancing the list, that is to say, avoiding the exhaustive inclusion of just some topics or subjects and the scarcity of some others.

6.2.1 In order to solve the first problem, the compilers of the first list consulted additional specialized sources, and took into account

the clear cultural differences which can be summarized in the following statements :

- In Law and Religion, L.C. responds to the idiosyncracy and values of the American society, as determined by Anglo-Saxon Law and the Protestant Religion, while in Latin America and Spain the framework is determined by Roman Law and Catholic Religion.

Therefore, from L.C. we had to look elsewhere in this particular point and to consult other lists such as Kapsner 1/, Catholic Subject Headings (for the first edition) and for Law the work of Sonia Guzmán 2/, and other specialists.

In the case of History of Latin American countries -the treatment of which in L.C. is very poor and inaccurate-, the updating and expanding of the list was made based, as I stated before, on the contributions of special collaborators from every Hispano American country or specially contracted for that purpose.

4/ KAPSNER, Oliver L., O.S.B. Catholic subject headings: a list designed for use with Library of Congress Subject Headings or the Sears List of Subject Headings. 5th. ed. Collective, Mina.: St. John's Abbey Press, 1963.

2/ GUZMAN KLANG, Sonia. Lista de encabezamientos de materia para bibliotecas de Derecho y Ciencias Políticas. Medellín, Universidad de Antioquia, 1970. 612 p. (Tesis Lic. Bibliotecología) Universidad de Antioquia.

Also considering that the list will be used by the Hispnic American countries, some regional terms contributed by the countries were also included. These terms were entered as First References, or 'x', that is, as synonyms, Of course, the scientific, technical or most common term in the region was selected as an authority.

In the case of animal products and plants, when these terms were used as examples, the terms accepted were those most widely used in Latin America.

6.2.2 With respect to the second problem, that is, the representation of new topics not yet included in L.C. or very local topics that correspond to the condition of our developing countries, the following policy was adopted : The heading was only accepted after sufficient bibliographic evidence was provided by the libraries proposing the use of the term and reafirmed by consulting with specialists and other relevant sources.

6.2.3 The third problem, referring to the balance of the list, is being solved in a satisfactory manner thanks to the cooperation of some fine general libraries and some special ones representing all areas of knowledge. In this sense we do not follow the recommendations stated by the

first compilers of the list with respect to not including a great deal of terms in areas such as medicine and agriculture since there exist specialized lists of high quality in these areas.

Reasons for not following this policy are that while in the English language one can find the lists produced by the National Library of Medicine and the National Library of Agriculture, in Spanish there exist no such lists and consequently the general list should provide a general framework for the subject heading work in all areas and for all types of libraries including university, national and even many specialized ones.

CONCLUSIONS

From our experience as compilers, of a Subject Heading List in Spanish for the Spanish speaking countries, one can draw the following conclusions:

1. It is necessary to produce a System of Bibliographic Authorities for Latin America and Spain. Such a system will expedite the information transfer, the standardization of techniques and the understanding between all libraries of the world.

2. As part of the system and as a first instance it is required to approach and solve the problem imposed by the production and systematization

of the Subject Headings List.

3. The production of a Subject Heading List can not be an "a priori" work or an isolated work. On the contrary, it must be the result of a collaborative task taken up by libraries or information centers taking into account their own needs.

4. For the compiling of the list consulting with other lists is required, In this sense, L.C. Subject Headings is a good model from the point of view of the number of subjects included therein, its correct relationship and because it is definetly the standard reference work for English speaking countries. But, by no means can it be taken or translated in a literal or abstract way.

5. For translation and adaptation of the list, besides the pure linguistic aspects related to semantics, syntaxis and orthography among others, one should consider the cultural, social and economic problems. It is useless to translate some of the terms correctly from the linguistic point of view if they do not have a real meaning to us and do not correspond to our stage of development or regional idiosyncracies.

6. Idiomatic differences are above all fundamental and translations can not be literal.

7. Even when taking a list as a model, it is necessary to consult other lists and specialized sources.

8. Work with specialists is a basic requirement from the point of view of contents as well as for the structure of the headings. In many occasions this work points out the manner in which the user will request that topic. Provided that one does not violently contradict the other principles, one should accept as correct the heading determined by usage.

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FID and UDC: General background and new developments

by

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120

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FID and UDC: General background and new developments

by Morten Laursen Vig, head of the Roskilde University Library
and vice-chairman of the Central Classification Committee of FID

FID - an acronym taken from the French form of its name: Fédération Internationale de Documentation, in English International Federation of Documentation) is one of the two international organizations in the field of documentation and information supported by UNESCO, IFLA being the other one.

According to the preamble of its statutes the aim of FID is "to promote, through international cooperation, research in and development of documentation, which includes inter alia the organization, storage, retrieval, dissemination and evaluation of information, *however recorded* (italics mine), in the fields of science, technology, social sciences, arts and humanities." You will have noticed that words such as "library", "librarianship" or "library science" do not occur, nor do they occur anywhere else in the statutes. That does not mean, however, that FID takes no interest in libraries, nor that we as librarians should take no interest in the activities of FID.

A view of the objectives of the organization will disclose several wordings which might just as well have been taken from the statutes of a library association, and in a number of countries the National Member (I shall return to this concept later) is a library institution or a library organization (as e.g. in my own country or in Norway). The field of activities of FID is, however, at the same time broader and narrower than that of IFLA. It is broader in the sense that it is not confined to such information & documantation activities as normally fall within the scope of the library (in the words of the Statutes /the objectives of FID are./ "to promote the study, organization and practice of documentation *in all its forms*..." (italics mine)). It is narrower in the sense that it comprises only one aspect of librarianship - although a most important one.

I shall not enlarge upon the structure of FID, but it should be noted that full membership is restricted to the National Members, who alone have the right to nominate their representatives for election as officers or councillors (Council correspond to the Executive Board of IFLA). Only one National Member is ac-

cepted from each country, and the National Member is supposed to be an intermediary between organizations, institutions and individuals of the country and FID central bodies and agencies. In the field of UDC-work this means that all proposals for revision of the UDC or comments on such proposals (P-notes) that do not originate from an international revision committee must be forwarded through the relevant National Member.

Other kinds of membership with more or less restricted rights are enjoyed by International Members (i.e. other international organizations working in the field of I&D), who have the right to vote in the General Assembly, but cannot have their representatives elected as officers or councillors; Associates, other organizations "representative of documentation activities in their countries" than the National Member, and Affiliates, which may be institutions or individuals. Associates and institutional affiliates may attend the General Assembly as observers, and they can nominate members for FID committees.

FID does not know any groupings of its members corresponding to the Sections and Divisions of IFLA with elected officers, but most of the professional activities are based on committees set up (and discharged) by Council. Chairmen and secretaries are also appointed by Council, and committee members, who can be nominated by Members (National or International), Associates or Affiliates, must be accepted by the chairman. As FID cannot cover travel expenses for committee members, business is supposed to be carried out by correspondence "as far as practicable", but of course meetings cannot altogether be avoided, and although the committees are encouraged to hold their meetings "in conjunction with" the biennial FID Conferences, a considerable number of meetings take place at other times. On the whole it can be stated that the professional activities of FID are less centered around the General Conferences of the organization than those of IFLA.

By far the oldest of the existing FID committees is the Central Classification Committee (FID/CCC-UDC or simply the CCC), which was founded in 1921 as La Commission Internationale pour la Classification Décimale. The task of the CCC is to maintain, develop and promote the UDC (The Universal Decimal Classification), which, as you will know, is a close relation - or perhaps more precisely

a descendant - of the Dewey Decimal Classification (DDC). But whereas the DDC has been designed and developed as a library classification system, the UDC has been developed primarily as a documentation oriented indexing and retrieval system, or, in the words of the "Principles and Rules" of the UDC "an all-embracing information ... language in the form of a decimal notation. It is intended for use in all branches of information work for classifying all kinds of information, documents or objects relating to any section of human knowledge or human activity".

UDC editions, which can be full, medium (30%) or abridged (10%) are published in about 25 languages by local (national) editorial bodies (organizations, institutions or committees) sponsored by the National Member, but every edition must be approved by the CCC and recieve an official FID publication number. FID is also entitled to royalties for all editions published by National Members. The FID has two official languages, French and English, but the UDC has three: English, French and German. All proposals concerning the UDC must be presented in one of these languages, and the text of the "Principles and Rules", which is the basic law of the UDC has equally authoritative versions in all three languages.

I shall not go into the structure of the UDC; I take it that this audience will be reasonably familiar with the general design of the system as well as the aspects in which it differs from the DDC. I shall concentrate on the revision procedure and the way in which revision is governed; both differ greatly from those of the DDC.

Revision of the UDC is an ever ongoing process. As there is no single authorized edition like the successive Dewey editions, amendments and modifications of the system are published continuously, first as proposals (so called P-notes) on which comments are invited within a specified time limit, and after the final accept of the proposal it is formally authorized as valid UDC by publication in the "Extensions and Corrections to the UDC" (E & C). Therefore the publisher of a UDC-edition is always confronted with the task of piecing together the current state of the UDC within a given subject field, in principle

working his way from the so called Second International Edition (in French), published in 1927 to 1933, through all authorized P-notes from 1931 to 1951 and from 1951, when the E & C started being published, all issues of this publication. Admittedly the task is lightened in practice by the existence of later full editions and cumulations of the E & C, but still no single master version exists. The CCC has decided to have a machine readable master version established, but so far the requisite funds have not been available.

As I have already said the CCC is in charge of the operation and supervision of the UDC. The CCC, however, is neither an executive agency, nor an editorial board, but an international expert committee, normally meeting only twice a year for a two-day session. That of course means that only general matters concerning the UDC can be discussed and decided upon by the CCC. It also means that the actual revision work as well as the detailed control of the technical aspects has to be left to other bodies.

FID has neither subject specialists of its own, nor a sufficiently staffed classification department at its disposal, and as the Federation can only afford to buy expert assistance on a very modest scale, it has to rely on such professional aid as can be had on a voluntary basis. Consequently the UDC can only be kept up to date in those fields where experts can be found whose love of the UDC will be strong enough to make them work free of charge (such people do exist) or who have the financial backing of an organization or institution with an interest in maintaining the UDC. The result is that some classes (especially within the field of technology, but also to a certain degree within the natural and even the social sciences) have been kept reasonably abreast of scientific developments, whereas others, mainly among the humanities as e.g. philosophy, psychology and religion, but also medicine, are next to useless for modern scientific documentation purposes in their present state, because for many years sufficient ressources for revision work in these fields have not been available. (In fairness I ought to say that recently prospect for at least some of the classes mentioned seem to have brightened a little.

Revision work is normally organized by international committees set up by the CCC and carried out by members of these committees. A UDC revision committee is considered international when at least 3 countries are represented, and the members are expected to be specialists within the subject field covered by the committee, but they need not be classification experts. Their task is to produce a scientifically sound breakdown of a given subject but not to answer for the final agreement with the principles of the UDC, including the provision of the breakdown with proper notations. Originally this was the responsibility of the FID Classification Departement (now called the Classification Sector), but as the amount of work grew without a corresponding expansion of the staff the CCC in 1973 set up a new subcommittee called FID/CCC-P (or simply the P-Committee), a proposals editing panel whose duty it is to examine all proposals concerning revision of the UDC before they are published in order to ensure that they obey the UDC principles. The P-Committee consists of four persons, all of them members or former members of the CCC, and all residing in the Netherlands or Belgium, thus being able to meet frequently without too much difficulty or too heavy expenses.

Up to 1977 the CCC itself was a body mainly composed of ex officio members, i.e. representatives of organizations sponsoring UDC editions (full, medium or abridged), the remaining being co-opted experts. It had eventually grown into an assembly of about 25 persons, who used to hold a full meeting once or twice a year. But they elected from among themselves up to six persons who, together with the CCC chairman and two vice chairmen, formed an Executive Group, which met more frequently, formally to implement the decisions of the CCC, but actually also deciding on a number of matters.

Although in this way the inconveniences of the too large plenary body was partially overcome, the desire to enhance the efficiency of the CCC and bring about a better contact of this body with the revision committees in 1977 led to a far-reaching restructuring. The CCC became an elected body composed of 11 members, of whom 6 (called A-members) represent UCD editors, 3 (B-members) represent the international revisions committees, and 2 (C-members) are so called independent experts.

At the same time a new body called the UDC Assembly was created, ostensibly for the sole purpose of being an electoral college; it has, however, developed into a kind of UDC general assembly meeting anually (elections are held only every second year), listening to reports from the CCC chairman, discussing all matters concerning the UDC and adopting resolutions on these matters. Every UDC edition (whether full, medium or abridged) has one vote in the Assembly, and the same has every revision committee and each of the experts co-opted for a period of four years by the Assembly itself. Voting by proxy is possible, and usually between 20 and 40 persons will attend the meetings of the UDC Assembly, casting about 40 votes.

It is evident that the new structure is in many respects a replica of the old one. The new Assembly is about the size of the old CCC, and it is quite obviously trying to usurp as many of the functions of this body as possible. In the same way the new CCC corresponds to the former EG (and in fact the majority of its members did hold a seat in the EG before the reform). But there is one important innovation, namely the representation of the revision committees in the steering body of the UDC. In a way there is an element of self-contradiction in this. The main responsibility of the CCC is to ensure that the development of the UDC is in agreement with the basic principles and the structure of the system, but as I have already said, the members of the revision committees are primarily specialist within their own subject field and need not be experts on UDC (nor on classification at all). It is therefore possible - at least in theory - that up to three (out of eleven) members of the body endowed with the highest authority on UDC-matters may be persons with only the slightest knowledge of classification theory in general and the theoretical basis of the UDC in particular. (I am bound in justice to say that so far only one person has been elected as a B-member who was not a UDC expert of long standing; I am here referring to myself.)

Another innovation is the "democratization" of the UDC. The members now come up for re-election every fourth year, and nobody is an ex-officio member any more. In this respect the CCC differs greatly from all other FID-committees, but so far the reform has not resulted in radical replacements; in fact I my-

self have been the only "outsider" to be elected under the new rules.

Thus the changes of the framework has not led to any drastic changes in the composition of the group of persons responsible for the development of the UDC, nor, it must be admitted, to any perceptibly increased efficiency of the CCC. Realizing this and also seeing that the methods of operating the UDC "are more suited to years gone by when progress was slower and fewer publications emerged, when only a few countries participated, when the pressures on personal time were less, and when people could afford to travel" Michael Hill of the British Library, councillor and now one of the vice-presidents of FID, in a paper containing a very keen analysis of the problems came to the conclusion that a radical rethink was necessary. He recommended that a special management study of the UDC should be made by a professional management consultant in order to find ways of ensuring the viability of the UDC for at least the next 20 years.

Council as well as the CCC agreed to the idea of a management study. The implementation of this idea, however, will be rather expensive, and so far no ways of raising the funds required have been found.

Another means of bringing about a better co-ordination of the various FID-projects and thereby increasing the efficiency of the work of the organization has been the Medium Term Programme (MTP). The MTP is based on project descriptions from the individual committees, among them the CCC and the UDC revision committees; the final synthesis and the allocation of funds is made by Council but must be approved by the General Assembly. The MTP thus registers all projects sponsored and funded by FID; the programme covers a period of four years, but is "rolling", i.e. it is constantly being reconsidered and revised, and every second year two more years are added.

In this way the CCC, too, has been provided with a better survey of ongoing UDC revision projects; but it has also been revealed that a very considerable number of the projects are not finished within the stipulated time - some of them never at all. It is, however, also fair to mention that the amounts allocated to the

individual projects are far below the amounts required to pay the "market price" of expert assistance.

The survey, however, is not complete. The MTP has been created as a tool to ensure a more expedient utilization of the financial ressources of FID, and therefore it only lists projects requiring funding and consequently cannot be a complete catalogue of FID projects. UDC revision projects carried out on a purely voluntary basis - and there is a number of such projects - are not registered, nor has the CCC any means to make sure that these projects are ever finished.

One major project initiated by the CCC should be mentioned, namely the International Medium Editions (IME). In honour of the Dewey centenary in 1976 it was decided that three identical medium editions in English, French and German should be published simultaneously, and the editors in question took on the job. But it soon became clear that it would not be possible to complete any of the three editions before November 1976; the German IME appeared in early 1980 (i.e. the tables; the index is still awaited), the French IME exists in proof, and the English one is supposed to be published next year (1983).

I have mentioned that the three editions will be identical, which also means that developments (revisions) of the UDC after 1979 (when the German edition was completed) must be disregarded in the French and the English versions of the IME. The CCC has discussed whether this stipulation should not be lifted; it has, however, proved impossible because the German editor has obtained a government subsidy subject to the proviso that the other IME-editions, if they were published at a later date than the German one, should still reflect exactly the same state of the UDC and not be more up-to-date than the German edition and therefore able to oust this from the market. So it is a deplorable fact that the French and the English IMEs will, when at length they appear (within the next year or so, we hope) already be outdated.

I have tried through this paper to give you an idea of the ways in which the development of the UDC is governed and implemented, and the difficulties to which they give rise. I shall leave the drawing of parallels to the revision procedures of the DDC to

the audience; in my opinion both practices have advantages as well as disadvantages. But I think it will be useful to the work of this section, if we are reasonably familiar with the general background and the mechanisms of the major classification systems, and this exposition must be seen as a contribution to secure this end.

IFLA Council 1982

Section on Cataloguing

160/CAT/4-E
138-RE

International Standard Book Numbers:

Their Development and Potential in Bibliographic Systems

by

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International ISBN Agency
Berlin (West)

Meeting
138 SI

International Standard Book Numbers: Their Development and Potential in Bibliographic Systems

The history and development of the ISBN system is, I suppose, well known in its principal structures. So, I do not have to repeat this. At the IFLA meeting in 1978 I had given a report to the Division of Bibliographic Control about the status of the ISBN system at that time for the Bibliographic Community, especially in national bibliographies (7). I am referring here to this paper and I am going to add the development since 1978 with the aspects coming up in the meantime. There have been some changes in the bibliographic use of ISBN in libraries. But the most important changes for the bibliographic use are on the way in the new book trade ordering systems, especially using the online data bases of Books in Print which are available in the meantime in different countries (e.g. Great Britain, United States, Netherlands, Federal Republic of Germany).

1. Dissimination of ISBN

The extent of dissimination of ISBN is usually fixed by three aspects:
- the number of countries using ISBN and the book production in the world they are representing
- the amount of books carrying ISBN in the different countries, and
- the bibliographic registration of ISBN.

All three points are extremely important for the bibliographic availability of ISBN, this means for the use of ISBN in libraries and book trade. These three aspects are listed in the following table, as far as data are available or can be estimated within the International ISBN Agency. Even if the percentage of coverage of the national book production by ISBN is not always reliable because it is very difficult to get these data, even by national institutions, it gives at least an impression about the situation in the different countries. As aspect for the bibliographic registration of ISBN we have checked again the national bibliographies and the Books in Print for all countries using ISBN (like in the paper of 1978).

Today 32 countries and Unesco (for intergovernmental organizations) are actively participating in the ISBN system, 26 countries have already applied for the system and are going to prepare the introduction. These are: Barbados, Bolivia, Cameroun, Cyprus, Chile, China (People Republic), Colombia, Costa Rica, Fiji, Haiti, Iraq, Jordan, Kenya, Korea, Kuwait, Lebanon, Libya, Malta, Portugal, Saudi Arabia, Sri Lanka, Taiwan, Tanzania, Uruguay, Venezuela, Zambia.

Country	ISBN introduced since	Percentage of Booktrade	Numbering Total	ISBNs in: Books in Print	National Bibliography
Argentine	1981	40			
Australia	1969	100		x	x
Austria	1971	80			
Belgium (Dutch) speaking	1969	80			x
Belgium (French) speaking	1974	60			x
Brazil	1978	50			
Canada (Engl.) speaking	1969	100	70	x	x
Canada (French) speaking	1969	100		x	x
Denmark	1970	100	70		x
Egypt	1976	30			
F.R. Germany	1969	100	80	x	x
Finland	1972	95	80		x
France	1974	75	50	x	x
Ghana	1980	25			x
Great Britain	1968/69	100	90	x	x
Hong Kong	1977	25			
Hungary	1974	100	80		x
Israel	1978	50			x
Italy	1977	30	15	x	x
Japan	1981	30			x
Malaysia	1982				
Mexico	1977	80	50		x
Netherlands	1969	100		x	x
New Zealand	1969	80			
Nigeria	1974	25			x
Norway	1971	95			x
Singapore	1980	70			x
South Africa	1971	80	60		x
Spain	1972	100		x	x
Sweden	1971	95			x
Switzerland (German) speaking	1969	80			x
Switzerland (French) speaking	1974	40			

Country	ISBN introduced since	Percentage of Numbering Booktrade	Total	ISBNs in: Books in Print	National Bibliography
Thailand	1978	40			
United States of America	1968/69	95		x	MARC
Zimbabwe	1974	100	80		x
Unesco	1973				

It is extremely difficult to find out the whole coverage of national book production by ISBN. It is a bit easier to do it at least for the commercial book trade. So, the book trade column in the table is filled more completely. 19 of the 32 countries are covering 80 to 100 % of their book trade books. In France there has just been issued a decree, in December 1981, saying that all books which are included in the Legal Deposit have to be printed with ISBN, so that France probably will have a higher coverage in this year.

But maybe not even this decree will guarantee a complete coverage of the whole French book production. This is shown by the problems which are observed for Britain in the British Library. Even when countries try to allocate ISBNs to books printed without ISBN after publication or to distribute ISBNs retrospectively (e.g. Great Britain, Belgium, Finland, Norway etc.), it is not possible to have a complete ISBN coverage of the whole book production of a country. An internal survey has shown that a considerable quantity of published material included in the National Bibliography is without an ISBN because the ISBN had not been allocated at the time of listing. Furthermore a vast amount of local publishing (some 20,000 titles a year) which are not included in the national deposit system and hence without an ISBN since they escaped the two bibliographical control systems: the National Bibliography and Whitakers. In a few years this material will find its way in the national data base. It seemed inevitable that there will be discrepancies between book trade lists and national bibliographies. So, it is very difficult to find the point where it is practical to stop numbering within the ISBN system. About 85 % of books were numbered by publishers and 15 % by the ISBN agency. Books published without an ISBN are usually the publications of small local publishers, societies, etc. In the UK 300 publishers produced 80 % of the total number of titles while the remaining 20 % were spread over about 3,700 publishers. Such publications, if they come to the notice of bibliographical or book listing agencies, should be listed because they cause trouble to librarians and booksellers if they are not in the lists.

Even for the book trade books some countries have still problems with the allocation of ISBN. In Brazil, e.g., which is a large publishing country, some big publishers refused to accept the system because the national agency, in accordance with the administration of some Spanish speaking countries, wanted to administer the ISBN

centrally and distribute the ISBN to each title. On the other hand, Venezuela is in a very good position for the introduction of ISBN because the ISBN there can be used as Legal Deposit Number which is prescribed by law. Fortunately, CERLAL (Centro Regional para el Fomento del Libro en America Latina y el Caribe, Bogota) has offered its cooperation to the International ISBN Agency to support and coordinate the introduction of ISBN in Latin America. So, CERLAL has already started to get an agreement about the introduction of ISBN in Colombia.

In principle there are 6 main problems to introduce ISBN in developing countries, but naturally the problems are not everywhere the same:

1. book trade and publishers are poorely organized. It is difficult to keep track of them as most of them are small fly by night operators;
2. lack of a national bibliographic system;
3. lack of the necessary administrative infrastructure for the introduction and operation of the system;
4. the problem of institutions running and financing the agency;
5. lack of availability of computer facilities;
6. the ISBN cannot be used as Legal Deposit Number or identification number in national bibliographies if the use of the ISBN is not compulsory.

In some developing countries the introduction of ISBN includes establishing a new organization and infrastructure for book trade and libraries.

In spite of all these problems, almost 5 million books had been assigned ISBNs worldwide since the introduction of the ISBN system. This number is still extending permanently as approximately 300,000 new books per year are assigned with ISBNs.

Almost all the countries using the ISBN system are publishing the ISBN in the national bibliography or similar bibliographies. In some countries the ISBN title list is probably going to get the function of Books in Print (e.g. Mexico, Brazil, Argentine, etc.) or combined with the Books in Print data base (e.g. Great Britain, United States, Netherlands, Federal Republic of Germany).

2. ISBN and non-book material

1978 has already been reported about the general tendency to extend the use of ISBN to non-book materials, especially pushed by publishers. Naturally publishers producing different types of material want to use only one coding system, this is very often the ISBN. I am quite sure that we will get new requests for the extended use of ISBN at the next meeting of the International ISBN Advisory Panel in October. One item in this part of the agenda is already clear. The Netherlands Normalisatie-Instituut has in the last years checked the possibility to develop an international standard cartographic number but has now finally decided that it would be better to use the ISBN instead of creating a new number. The Netherlands have now officially requested to use the ISBN for maps in booktrade, too.

3. Machine-readable ISBNs

In the last few years, there have been intense discussions on the machine-readable presentation of the ISBN. At present, ISBNs can be printed machine-readable in Optical Character Recognition (ORC-A and OCR-B) and within the bar code symbol of the European Article Number (EAN). The EAN system and its American counterpart, the Universal Product Code (UPC) have been introduced in grocery trade for article numbering and both systems have every indication of becoming the most widespread article numbering systems in the retail sector in the world.

Worldwide on the other side the ISBN has been accepted as most suitable system for product identification in the book market. The basic principles of the ISBN are very similar to those of the EAN system, so a cooperation of the two international agencies was possible, and in August 1980 the ISBN-EAN contract had been signed by the representatives of the agencies. To allow the use of the ISBN system in conditions compatible with the EAN coding, the EAN Association in Brussels has allocated the identification number ('flag') 978 exclusively to the ISBN system. The flag 978 indicates that the following number is an ISBN - but without check digit. The EAN structure includes the use of a bar code; the ISBN rules on the other side state that the code has to be 'easily human legible'. So, the International ISBN Agency recommended that countries adopting the procedure for translating the ISBN into the EAN should ensure that the ISBN is also printed in human legible form (normal characters or OCR) and that the two representations of the ISBN always appear in proximity one to another. The use of machine-readable codes will contribute to the further efficiency

of book trade systems. But also in libraries, the printing of ISBNs in either OCR or bar could lateron be used to identify a book, e.g. in acquisition and cataloguing. The updating of records at the invoice stage would be facilitated and the reading of ISBNs by wands or laser scanners could be the first step in the production of book cards and records if the reading equipment is connected with a data base and printer. (3, 5)

4. Replacement of other book numbering systems by the ISBN system

When introducing the ISBN, a lot of publishing houses around the world already using older own housekeeping and numbering systems had to replace these codes by the ISBN. In the meantime there are even two big countries which are going to do the same, this is Japan and the People's Republic of China.

In Japan an own book numbering system had been introduced since 1969 and has already been adopted by about 70 % of the total publications in Japan. However, the ISBN was already used in Japan before the official introduction in January 1980 for literature to be exported or imported, above all in English language. In particular, the publishing houses and distributors in the USA which are the major partners in Japanese book trade used the ISBN system within their data processing. So, at least the large booksellers and publishers of Japan became familiar with ISBN before the Publishers' Association has decided to introduce the ISBN system within Japan itself. This previous use of the ISBN supported very much the decision of the Publishers' Association and is maybe one of the main reasons that the ISBN is expected to replace the old numbering system. On the other hand, it seemed to be necessary to introduce a new system in Japan because the old system was not very comfortable for data processing.

Also in the People's Republic of China since 1956 the publishers used a scheme of "China's Unified Book Number" (CUBN). The Chinese ISBN agency informed us "that CUBN has played an important part in the planning, statistics, publishing, distribution, and management of books as a common numeric system. With the development of science and technology, in particular the use of computers, the CUBN could not meet the needs and requirements of book stores, libraries and information services of China". In 1978 China resumed its activites in ISO and a set of inter-

national standards, including ISO 2108. In May 1982, the ISBN Center of China was set up which is located at the Publishers Association of China.

5. Use of ISBN in book trade and publishing houses

The ISBN provides a unique identification number for each book published. Distinctions, such as different bindings, editions, publishers, are easily identified by the ISBN if all ISBNs are correctly quoted in the book and other references. For the identification of publishers who are in most cases also the copyright holders, the International ISBN Agency publishes the International ISBN Publishers' Directory with reference to ISBN publishers prefix, name and address of the publishers. The third edition (1980) contained more than 55,000 ISBN publishers. The next edition will be published in the near future. The ISBN has the advantage that the number printed in the book is equally known to all persons concerned, the people ordering as well as those supplying, libraries, booksellers and publishers. The ISBN provides a way for all parties - publisher, wholesaler, retailer, library and patrons - to communicate with each other about a specific book in an unambigious manner without the burden of using a complex bibliographic citation.

Naturally, it is an old idea to replace the whole handling of a title by the handling of a number. Not only publishing houses but especially large wholesalers in the world are doing this for a long time. So, some German wholesalers have already established years ago an electronic ordering system on the basis of their own stock catalogue numbers. The bookseller had only to order by the number which the appropriate title has in the catalogue of this wholesaler. At that time this has not been the ISBN but the internal number of the wholesaler.

But only the ISBN made it possible to order by number only and not to use an internal ordering system of one wholesaler. This means that the ISBN is the basis for national or international ordering systems using an international number replacing the bibliographic data.

At least, three national systems are already in use or are to be used in the near future. These systems are located in Britain, the Netherlands, and the Federal Republic of Germany.

The German systems could not have been transferred to Britain because wholesaling in British booktrade is in its entrance. The trade structure is of bookshops dealing directly with publishers. So, the ISBN has been the best solution as ordering code.

The British teleordering system[9] has now been operational for more than two years. But the booktrade has been very cautious in accepting the system so that some more than 100 bookshops are participating. The company operating the system had therefore to be saved by joint efforts of booksellers assocation and publishers association. The system allows ordering to bookshops by ISBN and title. But the normal ordering key is ISBN which is stored within the terminal until the central computer of the system called it up via telephone line after midnight. All data in the central computer are sorted by ISBNs which brings them into publisher blocks. By ISBN afterwards, the bibliographic information is added from the bibliographic file of Books in Print. The computer is in this way producing an ordinary order with all data usually available: account number, bookshop's name and address, quantity, ISBN, author title, binding, series, and price. These data are afterwards transmitted to publishers directly to their own computer, to a terminal or an ordinary hard copy. Further there is immediately sent a confirmation to the bookseller with all bibliographic information. The bibliographic ISBN file used is supplied by Whitaker as publisher of the British Books in Print and is including about 600,000 book records of almost 10,000 publishers. More than half of the records are referring to books currently available. All bookshops and publishers are satisfied with this kind of system. Bookshops have to keyboard only the minimum of data, save therefore clerical work and money, and publishers anyway get accurate information on the orders they receive and their standard format. This is possible because of the ISBN as bibliographic link.

The ISBN as bibliographic link in the booktrade is used in the Netherlands, too, within the BOOKDATA Project. The Centraal Boekhuis in Culemborg is keeping a stock of about 45,000 titles from publishers in the Netherlands and from Flemish publishers in Belgium and further keeping an online ISBN database with about 150,000 titles of the same area since the start of the ISBN system in 1969. [6]

The ordering and information system of Centraal Boekhuis is more comfortable and more expensive, too, than the British system. The bookshops have an online terminal and are so able to communicate directly with the computer. So far, this is an online information and retrieval system. But anyway, it is using ISBN as main input and search key. The bookshop can use the system to get bibliographic and commercial information, only, and/or for ordering of books.

With respect to the high costs of the online system, the Boekhuis is experimenting with another cheaper information system by microfiche like the British system.

A very similar project to the Netherlands project is done in the Federal Republic of Germany by the Buchhändler-Vereinigung who is like Whitaker publisher of German Books in Print and the National ISBN Agency at the same time. Here, too, the German Books in Print is available in an online database with about 340,000 titles of more than 6,000 publishers. (8)

The project at the moment in its first phase is only including the online retrieval system, the ordering system will be added later. When the project is finished and the whole system available to the bookshops, it will be a mixture between the British and the Dutch system. It will be an online system using the cheap German packet switching telecommunication system DATEX P, but on the other hand will not be restricted to the service of one large wholesaler but like the English system communicate between bookshops and publishers.

Further, the German Books in Print has been matched by ISBN with the files of the German National Bibliography to add corresponding subject keys out of the national bibliography. This enabled the Books in Print database to produce a subject guide to German Books in Print and to produce special subject catalogues out of the complete database or only for single publishers on request. So, the Books in Print database can produce all kinds of catalogues for each German publisher.

I want to mention one aspect of the German system which may still be unique and of special interest to librarians as clients of booktrade. The German teleordering system of the Buchhändler-Vereinigung will allow any clients directly to access the ordering system from any point of the country without interference of a bookshop.

The client can use the system in the same way as a bookshop does but the order itself has to be carried out by a bookshop which the client is selecting on the terminal. The system is therefore from the very beginning open to the German Bildschirmtext System offered by the PTT which is similar to the British Viewdata. I am quite confidential that even the clients will learn to use the cheapest and fastest access to this database by ISBN. The whole system will probably be available for testing at the end of 1982 including the access from other countries via EURONET.

6. The application of the ISBN in library systems

As far as we got to know there have been no principal changes or important developments in the use of ISBN for interlibrary loan systems. It seems that the main efforts to use the ISBN in libraries in the last years have been concentrated to the bibliographic aspects. It is obvious that the bibliographic use of ISBN in libraries, i.e. the use of ISBN as identification code for titles, is much more complicated than in booktrade.

First of all, booktrade normally is only interested in Books in Print and much less in retrospective titles. Secondly, there is naturally still the old problem of more than one ISBN for one title, even if this does not occur very often. For libraries, the title and the content of the book are the main aspects of identification, for the booktrade the ordering unit, i.e. identification of binding, publishing house, etc.

To overcome this difficulty for bibliographic use already the ISBN standard stipulates that all ISBNs belonging to a title at the time of publication should be cited in all editions. But everybody knows that this is not always done and is not enough. So, the national bibliographic systems are still enforcing its efforts to bring the ISBNs together. Many national bibliographies are collecting the ISBNs for one title as far as possible within the title entry and list them in registers. The British National Bibliography has used the ISBN for 10 years already as file control number for the machine readable catalogue entries and has developed special rules for the ISBN application, e.g. in B.N.B. MARC tapes "v" or "w" is added to distinguish alternative ISBNs from the first allocated ISBN which is used as control number (v for alternative ISBN, w for a work ISBN).

The Library of Congress policy on ISBN fortunately has changed within the last years and a "Descriptive Cataloging Manual" [4] on the ISBN was developed and published. The interesting point of this 23-page manual is that it not only includes instructions on how to cope with cataloguing the correct ISBN but how to handle the ISBN errors they have identified during the past years from the books and forms submitted by publishers. There is a departure from the previous rules and the main difference is that now all available ISBNs - even the invalid ones - are recorded in the MARC file and a process of validating the ISBN by computer has been introduced. Users establishing access to the files will be able to retrieve the bibliographic data of a title, regardless of which ISBN is used, when a title has more than one.

The Library of Congress will still use the LC card number as record control number. There have been considerations to drop the LC card number and to make the ISBN the processing number but late tests proved that only 60 to 70 % of the records have ISBNs in this system, and it is naturally regarded as a problem that ISBNs are assigned to a selling entity whilst the LC card number identifies a bibliographic entity. But the LC will produce, within the next two years, an ISBN index which will contain the ISBN, LC card number, LC classification, and all locations of the book in US libraries. This planned index will facilitate the use of the MARC Data-base produced by the LC because it contains references between ISBN and LC card number and it will also be usable for interlibrary lending on the basis of ISBN and LC card number.

Because Australian publishers frequently assign erroneous ISBNs to their titles and print this number in the books, the Australian MARC format was revised in 1979 to allow the erroneous number to appear in a separate subfield of the MARC record for purposes of access to the records. The Australian ISBN Agency assigns in all cases a correct ISBN but also the invalid ISBNs printed in the books are stored. The entering of alternative and even invalid ISBNs on MARC tapes will allow a higher ISBN hit rate.

This statement was proved with the development of a new alpha-numeric joint catalogue in the State Library in Pretoria.[1, 2] In 1971, South Africa became one of the first countries to introduce a union catalogue of monographs which identified monographs solely by ISBNs. This catalogue, known as UNICAT, contains the ISBNs of monographs

accessioned in Southern African libraries, followed by numerical codes for all libraries holding the particular record. UNICAT grew rapidly but also many records (about 50 %) were still received without ISBN. In view of the large number of records without ISBN, it was decided to computerize the SA Joint Catalogue with bibliographic alpha-numeric records in a batch mode. During 1977 UNICAT No.30, containing 317,963 ISBN records, was matched by ISBN against the UK and LC MARC databases. The conversion rate was disappointingly low: only 41 % were found in both data bases because retrieval was done on the primary ISBN only and not on any alternative ISBN which have been contained on UK MARC records. Because of the low conversion rate, all non-converted ISBNs were transferred to a separate file and forwarded to the Birmingham Libraries' Cooperative Mechanisation Project (BLCMP) for retrieval where additional 19 % were retrieved but the number of unretrieved records in the 0-group was considered alarmingly high and the general impression was that most of the unretrieved ISBNs in the 0-group were of alternative ISBNs from American and British books.

But in spite of these problems, Martin L. van As states as résumé of this project: "It has been experienced in this system ... that the ISBN remains the most effective and most economic match code algorithm for automatic merging of bibliographic records in a joint catalogue or network. The computer costs for creating 100,000 match code records from MARC tapes was four times as high as the costs for creating 100,000 ISBN records for the online index file".

Future development

There is some evidence about the further extended use of ISBN at least in three areas. Two belong to the booktrade, one to libraries.

After the first years of development, testing and use of teleordering systems, probably tele-ordering in booktrade will become more common. If the more sophisticated systems with complete online communication between all the parts using teleordering will become the first choice, is depending on the costs. Whatever teleordering system finally will succeed or if - and this is more probable - several kinds of systems will be used parallel, the ISBN will remain the main condition for teleordering. Maybe in some

time even bookshop clients and library users are accustomed to use ISBN when the teleordering systems are open directly to them. In this way, libraries will be clients, too. Further, the ISBN may get an increasing importance as machine-readable code on the point of sale in bookshops and department stores. So, the ISBN is on the way to be the main booking, ordering and bibliographic number in booktrade at least of some countries.

In libraries, the large network systems are still going ahead. There are coming up new networks and the older networks are still increasing. These comfortable online systems with the full set of bibliographic data will probably succeed the old ISBN interlibrary lending lists on microform which LASER has first introduced a lot of years ago. But at the same time, ISBN will be used more and more as retrieval number in these networks and as search code for data exchange etc.

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